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BIRDS

MINISTRY OF PUBLIC WORKS, EGYPT.

ZOOLOGICAL SERVICE.

HANDLIST
OF
THE BIRDS OF EGYPT,

BY

M. J. NICOLL, F.Z.S., M.B.O.U.,
ASSISTANT DIRECTOR, ZOOLOGICAL SERVICE.

PUBLICATION No. 29.

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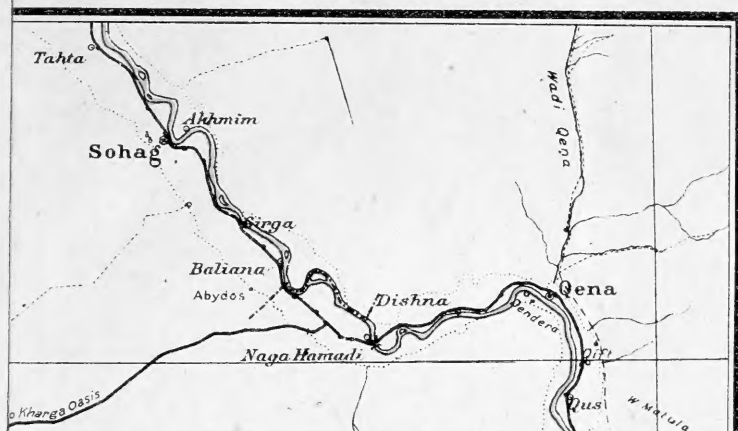


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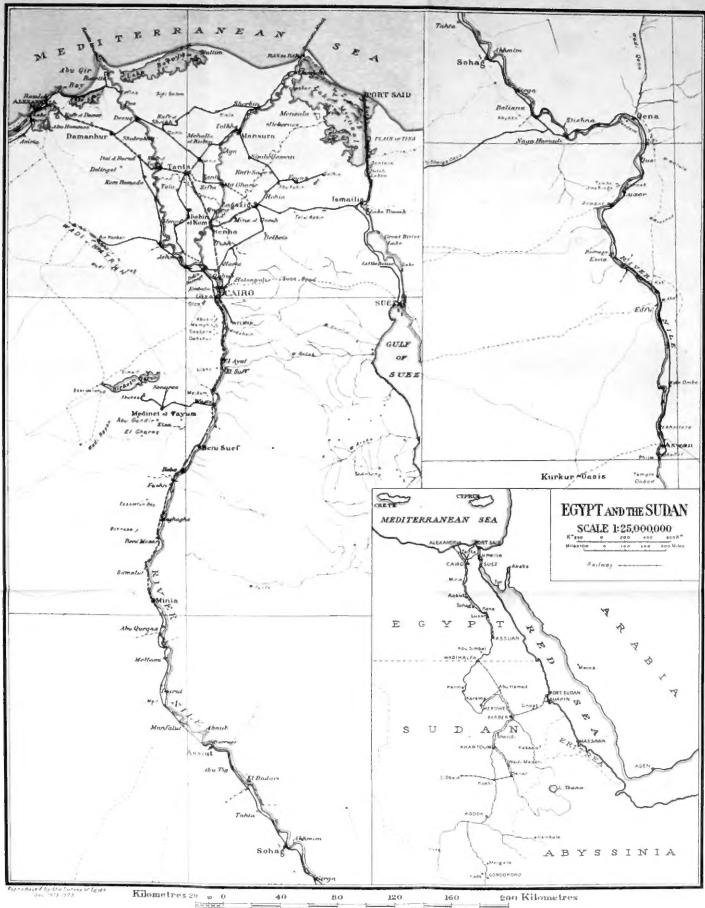
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HAND LIST OF THE BIRDS OF EGYPT



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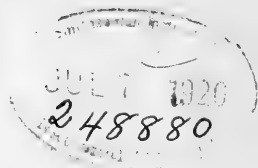
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INTRODUCTION.

Since the late Captain G. E. Shelley published his "Hand-book on the Birds of Egypt" in 1872 no scientific work dealing entirely with the avifauna of this country has been produced.

Shelley enumerates 352 species as inhabiting Egypt, but many of these he rightly casts some doubt on and only includes them on the authority of older writers, and one—the ostrich—is extinct in the country.

In 1875 Mr. J. H. Gurney spent six months bird-collecting in Egypt, and the results of his trip were published in 1876 in his excellent work entitled "Rambles of a Naturalist," in which the author treats of 220 species from Egypt.

Short papers have since been published in the "Ibis" and other publications dealing with the birds of Egypt, but it is unnecessary to enumerate them here.

For the past thirteen years I have been collecting specimens and notes with the intention of publishing a handlist on the avifauna of the country. Shortly after the outbreak of war, owing to the presence of many persons in the E.E.F. interested in ornithology, and the consequent stream of questions *re* the identification of birds seen by them, it was decided to bring out as complete a list as possible of the birds of Egypt, giving the status and adding a short description of each form. This was practically completed three years ago, but owing to shortage of paper in the country it was found impossible to put this book in the press until quite recently.

This handlist will, I trust, be a help to my brother ornithologists in this and in other countries. About 437 forms of birds are admitted as inhabiting or having been recorded from Egypt. Of these the majority are migrants, and some few very rare stragglers. Apart from records taken from formerly published works, the notes in this list are based on a collection of about 4,000 skins which I have brought together during a thirteen years' residence in Egypt and which are now in the Zoological Museum at Giza.

As regards the vexed question of nomenclature, I have used the names which seem most suitable and easily understood, and as an English name has in all cases been added there should be no loophole for confusion. Trinomials are used whenever possible, as recognition of well-marked geographical races is of the highest importance towards the furtherance of the science of ornithology. The order adopted is, as far as possible, that used by the late Howard Saunders in his "Manual of British Birds," the standard work on that subject. References are given to Shelley's "Birds of Egypt" when possible.

The greatest difficulty of all, however, has been to condense the descriptions so as to enable those interested to identify a bird seen as soon as possible and without wading through technical terms; in this I trust I have succeeded.

Egypt, as regards its avifauna, must be included in the Palearctic region, as, although a few Ethiopian forms, such as sun bird, *Nectarina*, and lark-heeled cuckoo, *Centropus*, are residents in the country, the rest of its avifauna is undoubtedly of European origin. I draw the boundaries of Egypt for the present work as from Sollum to the Suez Canal on the north to as far south as Wadi Halfa. This seems the most natural way of defining the limits of Egypt from an ornithological point of view, and for these reasons. As regards the eastern limit, shortly after crossing the Suez Canal one finds forms which do not occur on the west bank, and on the western boundary a line drawn due south from Sollum just separates Egyptian forms from those which extend westward, such as races of crested larks, *Galerida*.

As regards Wadi Halfa being taken as the southern limit, this is more or less arbitrary; but as one has to draw a line, Halfa seems the most suitable place for it, as being the most northern town in the Sudan and practically marking the southern political boundary of Egypt.

There is no doubt that, at the present time, several species of birds are far less abundant, in the number of individuals, than they were in Shelley's time. Of these one may mention the Egyptian plover, *Pluvianus ægyptius*, and the white-tailed plover, *Chetusia leucura*. On the other hand, however, several species have increased in the number of individuals during the past twelve years, such as the resident hoopoe, *Upupa epops major*, the spur-winged plover, *Hoplopterus spinosus*, and the buff-backed egret, *Ardea ibis*. This is owing to the law protect-

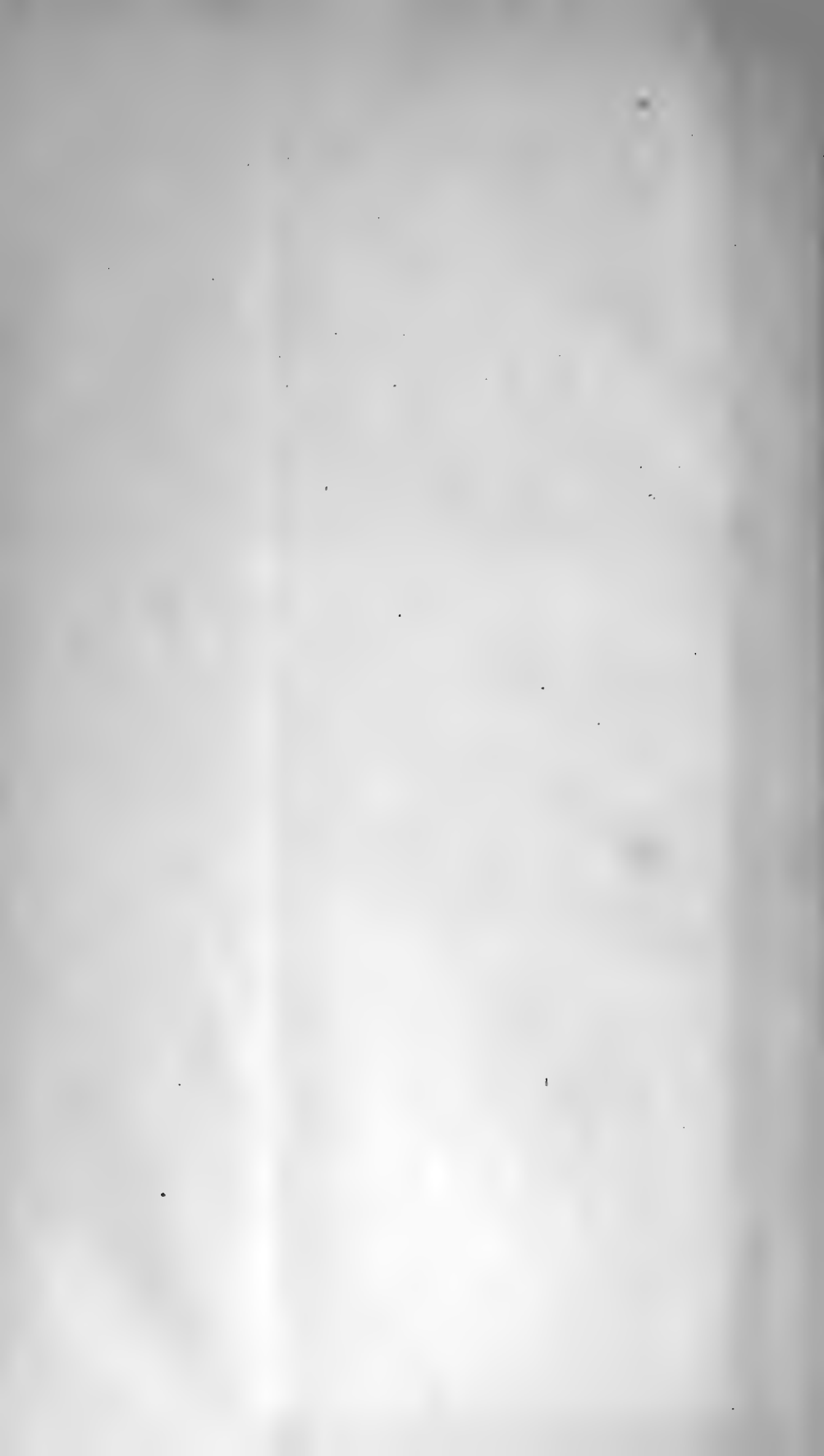
ing certain birds in Egypt passed in May 1912 and also to the introduction of a gun licence and the confiscation of a large number of guns from persons unauthorized to have them.

As regards the time at which the resident birds breed in this country, although I have many notes on the subject it has been considered unnecessary to publish them in the work in question, as the breeding season of most is somewhat extended. Roughly, it is the same as in England, *i.e.* from February to July, but some species, such as the kite and crow, commence nesting in December and finish in September.

My friends and correspondents both in this and in other countries who have been so good as to help me with specimens and notes are so numerous that I cannot mention them by name, but they are asked, one and all, to accept my grateful thanks.

M. J. NICOLL.

October 24, 1919.



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-

HANDBOOK OF THE BIRDS OF EGYPT.

PASSERES.

1. **Song Thrush.** *Turdus musicus musicus* Linnæus, 1766.

Turdus musicus. Shelley, p. 66.

The European continental form of this thrush is to be met with from autumn to spring in suitable localities. In some winters it is very abundant.

It differs from the English thrush in being slightly greyer above. Length about 9 inches. Upper parts greyish olive brown. Underparts white, washed on the breast with yellowish buff, and profusely speckled with brownish black spots.

2. **Redwing.** *Turdus iliacus* Linnæus, 1766.

Not mentioned by Shelley.

A somewhat scarce visitor in mid-winter and early spring.

Length about 8½ inches. Like a song thrush, but has a yellowish stripe over eye and chestnut flanks and under wing coverts. Spots on underparts brown.

3. **Fieldfare.** *Turdus pilaris* Linnæus.

Turdus pilaris. Shelley, p. 65.

Usually a somewhat uncommon winter visitor. During the winter of 1917-1918 a large number of fieldfares frequented the Nuzha Gardens at Alexandria.

Length about 10 inches. Head and rump grey; rest of back chestnut brown; wings and tail blackish; throat and breast yellowish buff, spangled with black; belly dull whitish.

4. **Syrian Blackbird.** *Turdus merula syriaca* Hemprich and Ehrenberg.

Turdus merula. Shelley, p. 66.

Common in suitable localities from autumn to spring.

The male hardly differs from the English blackbird, but females are greyer. Length about 10 inches. Adult male glossy black. Bill orange, legs and feet brown. The female is greyish black with faint streaks of lighter grey on the throat and upper breast. Young birds are somewhat similar to the female but browner.

5. Eastern Ring Ouzel. *Turdus torquatus orientalis* (Seebohm).

Turdus torquatus. Shelley, p. 67.

A few during the winter and early spring.

Length about 10 inches. Male black; a white gorget on fore neck; feathers of underparts edged and centred with white; a grey patch on the wings. Female browner and duller.

6. Rock Thrush. *Monticola saxatilis* (Linnæus).

Monticola saxatilis. Shelley, p. 70.

Common during spring and autumn migrations.

Length 7 inches. Upper parts bluish; a white patch on back; throat blue; rest of underparts red; tail red. Female dull greyish brown with a red tail.

7. Eastern Blue Rock Thrush. *Monticola cyanus transcaasicus* Hartert.

Monticola cyana. Shelley, p. 70.

Probably resident; increases in numbers in spring and autumn.

Length 8 inches. Entire plumage of male blue; wings browner. Female greyish brown spangled with buff spots. In autumn both sexes are browner.

8. Wheatear. *Saxicola œnanthe œnanthe* Linnæus. Plate 24, fig. 1. Plate 1.

Saxicola œnanthe. Shelley, p. 71.

Great numbers pass through during both migrations.

Length about 6 inches. Male in spring grey above, buffish white below; wings, ear coverts and a bar on end of tail black, rest of tail and rump white. Females and young birds lack the grey back, and the adult male is browner after the autumn moult.

9. Silver-backed Wheatear. *Saxicola œnanthe argentea* Lönnberg. 1909.

Not mentioned by Shelley.

Not uncommon during spring migration. Abundant during the autumn passage.

Very similar to the previous, but rather paler with longer wings.

10. **Long-billed Wheatear.** *Saxicola oenanthe rostrata* Hemprich and Ehrenberg.

Not mentioned by Shelley.

A somewhat rare visitor during both migrations.

Similar to above, but with a longer thinner bill.

11. **Isabelline Wheatear.** *Saxicola isabellina* Cretzschmar.

Plate 24, fig. 2.

Saxicola saltatrix. Shelley, p. 72.

Abundant from August to April; a few probably breed in Egypt.

Length 6 inches. Upper parts sandy isabelline; under parts buffish brown, *underwing coverts white*, as is also base of tail and the rump; bill long. Sexes alike.

12. **Eastern Russet Chat.** *Saxicola hispanica xanthomelæna* Hemprich and Ehrenberg. Plates 2, 3.

Saxicola amphileuca et *S. eurymelæna*. Shelley, pp. 72-73.

Very common during spring and autumn migrations. This species is dimorphic, *i.e.* it has two forms or varieties, one of which has a black chin and throat, while in the other these parts are whitish.

Length about 6 inches. Males in summer are nearly white above, with black wings (in some examples, black throats), black tips to tail feathers, black ear coverts, rest of under parts whitish brown. Females duller in colour, with or without greyish brown throats. In autumn the whole plumage is suffused with brown.

13. **Desert Chat.** *Saxicola deserti deserti* (Temminck). Plate 4.

Saxicola deserti. Shelley, p. 74.

Not uncommon; resident and restricted to the desert.

Length about $5\frac{1}{2}$ inches. Upper parts sandy brown, extreme base of tail white, the rest black. Throat black, rest of underparts buffish white. Female similar, but lacks the black throat. Recognizable from all other wheatears by the small amount of white at base of tail.

14. **Eastern Desert Chat.** *Saxicola deserti atrogularis* (Blythe).

Not mentioned by Shelley.

This form occurs on the east side of the Nile in Lower Egypt and probably in Upper Egypt also, as it is common in Nubia and the Sudan in winter. Resembles the typical form but is slightly larger and greyer on the upper parts.

15. Guldenstadt's Chat. *Saxicola melanoleuca melanoleuca*
Guldenstädt.

Not mentioned by Shelley.

According to Hartert this wheatear has been met with in Egypt (*cf.* Hartert, "V. d. pal. Fauna," p. 690).

Similar to the following form but larger and slightly more russet in coloration.

16. Arabian Chat. *Saxicola melanoleuca finschi* Heuglin.
Plate 5.

Not mentioned by Shelley.

Rare, and possibly resident on the east side of the Nile.

Length about 6 inches. Crown, centre of back, rump, lower breast and abdomen white; under tail coverts pale rufous; rest of plumage black. Females are mouse grey instead of black.

17. Eastern Mourning Chat. *Saxicola lugens lugens* Lichtenstein. Plate 6.

Saxicola lugens. Shelley, p. 77.

Common, resident and confined to desert.

Length about 6 inches. Crown, lower breast, abdomen, rump and base of tail and inner webs of wing feathers white; under tail coverts rufous; rest of plumage glossy black. Sexes practically alike.

18. Western Mourning Chat. *Saxicola lugens halophila* Tristram. Plate 7.

Has only been recorded once, February 24, 1909, near Abu Ruweish, but is possibly to be found on western frontier.

Male much like the preceding, but has less white on the wings and paler under tail coverts. Female, hair brown above, with a grey throat and white belly.

19. Persian Chat. *Saxicola persica.* Seebohm.

There are specimens of this chat in the British Museum labelled "Egypt."

Somewhat similar to the mourning chat but duller in coloration. The crown is suffused with grey and the white on the inner webs of the wing quills is more restricted.

20. Hooded Chat. *Saxicola monacha* Temminck. Plate 8.

Saxicola monacha. Shelley, p. 78.

Sparingly distributed and confined to the desert. Resident. Back, throat, upper breast, end of central tail feathers and wings black, rest of plumage white. Female brown above,

buffish white below; tail brownish. Differs from the mourning chat in having more black on the throat (in the male) and has shorter legs.

21. Heuglin's Chat. *Saxicola leucura syenitica* Heuglin.

Saxicola syenitica. Shelley, p. 80.

The type of this wheatear was collected by Heuglin at El Kab in Upper Egypt in June 1852. I know of no other records of this bird from Egypt, though it is found in Tripoli and South Algeria.

Length about 7 inches. Similar to the next species, but not so glossy black, more brownish, and the tail feathers are all tipped with brownish black.

22. White-rumped Black Chat. *Saxicola leucopyga* Brehm.
Plate 9.

Saxicola leucopyga. Shelley, p. 79.

Common in rocky deserts. Resident.

Length about $7\frac{1}{2}$ inches. Entire plumage, with exception of most of tail and rump and vent, glossy black; rest white. Some examples have a white crown. Sexes alike.

23. Eastern Pied Chat. *Saxicola morio* Hemprich and Ehrenberg. Plate 10.

Saxicola leucomela. Shelley, p. 78.

Although recorded by Hemprich and Ehrenberg and by Von Heuglin from Egypt, the only example I have seen from this country is an adult male shot at Abu Za'bal, Qalyûbiya, on November 5, 1917, and now in the Gîza Museum.

Male adult in winter, length about $6\frac{1}{2}$ inches. Throat, back, wings, central tail feathers and tips of the other tail feathers black; crown of head sooty, with buff bases to the feathers; base of tail and rump white; breast and underparts rufous buff. Female duller and less strongly marked with black. In breeding plumage the buff disappears.

24. Hemprich and Ehrenberg's Wheatear. *Saxicola xanthropygma* Hemprich and Ehrenberg.

Saxicola mæsta. Shelley, p. 76.

This rare wheatear has been obtained in Egypt. There are three examples in the British Museum.

Length 6 inches. Forehead and sides of crown whitish, head and back ashy-brown; lower part of back, rump and upper

tail coverts rich tawny. Wings blackish brown, tail blackish brown with the basal half *white*, sides of face, throat and under wing coverts black, rest of under parts cream colour, vent and under tail coverts rich tawny like the rump. (Shelley *partim*).

25. Black-tailed Chat. *Saxicola mæsta* Lichtenstein. Plate 11.

Saxicola mæsta. Shelley, p. 76.

Apparently confined to the north-western desert (Whymper's picture represents the Mourning Chat and not this species. Cf. "Egyptian Birds," C. Whymper).

Length about 6 inches. Back and throat black; crown brownish white; tail black with a narrow red base, wings grey black with a whitish patch. Female browner, without any black except in tail.

26. Grey Rock Chat. *Myrmecocichla melanura subsp.?* Temminck.

Not mentioned by Shelley.

Has only been recorded once from Egypt, *i.e.* one seen at Gîza by writer on October 9, 1907.

Length about 6 inches. Entire plumage, with exception of wings, tail and underparts, grey; tail and wings black, underparts dull whitish grey.

27. Whinchat. *Pratincola rubetra rubetra* (Linnæus).

Pratincola rubetra. Shelley, p. 81.

Numerous during both migrations.

Total length about $5\frac{1}{4}$ inches. A white streak through the eye; ear coverts blackish brown; upper parts mottled with buff and dull brown; base of tail white; a white bar on the shoulder. Underparts bright buffish brown.

28. Eastern Whinchat. *Pratincola rubetra spatzi* Erlanger.

A rare visitor on migration.

Greyer and less rufous on the back than the preceding.

29. Stone Chat. *Pratincola torquata rubicola* (Linnæus).

Pratincola rubicola. Shelley, p. 81.

Common from autumn to spring.

Length 5 inches. Male: head and throat brownish black with a patch of white on sides of neck. Upper parts dull brown streaked with black. Rump mottled with white. Under parts dull brick red. The female has a brown head and throat.

30. Eastern Stonechat. *Pratincola maura* (Pallas).

Pratincola hemprichii. Shelley, p. 82.

Very rare, status in Egypt at present unknown.

Differs from the foregoing in having base of tail white.

31. Redstart. *Phoenicurus phoenicurus phoenicurus* (Linnæus).

Ruticilla phœnicura. Shelley, p. 82.

A common visitor during both migrations.

Male, length about 5 inches. Forehead white; upper parts slate grey. Tail red, all but the central pair of feathers, which are browner. Chin, throat and upper breast black; rest of underparts rufous chestnut. Female paler and lacks the black on the throat, except in very old examples.

32. White-winged Redstart. *Phoenicurus phoenicurus mesoleuca* (Hemp. and Ehren.)

Very rare. Male differs from previously mentioned form of redstart by having a white patch on the wings.

33. Black Redstart. *Phoenicurus ochrurus gibraltariensis* (Gmelin).

Ruticilla titys. Shelley, p. 83.

A winter visitor and not uncommon.

Total length $5\frac{3}{4}$ inches. Upper parts dark slate grey, throat and breast velvety black, belly whitish, washed with grey. Central pair of tail feathers dull rufous brown, the rest rust red. A patch of dull white in the wings. Females and young birds much browner.

34. Eastern Redstart. *Phoenicurus ochrurus phœnicuroides* (Moore).

Not mentioned by Shelley.

A rare visitor in winter.

Much like the common redstart but has more black on the breast; longer wings and little, if any, white on the forehead.

35. Palestine Redstart. *Phoenicurus semirufa* (Hemprich and Ehrenberg).

Ruticilla semirufa. Shelley, p. 84.

Very rare; it has possibly been confused with the preceding form, which it much resembles.

The writer has never seen an example from Egypt, though the type was described from this country.

36. Red-spotted Bluethroat. *Luscinia svecica svecica* (Linnæus).

Cyanecula svecica. Shelley, p. 85. (This and the following forms of this species united by Shelley under one form.)

Common during the winter and early spring.

Length about 5 inches. Upper parts hair brown. Tail red at base, tipped with brown. Chin, throat, and upper breast metallic blue, bordered below with bands of red, white and black; in the centre of the throat a chestnut red spot. Belly buffish white. Females and young birds have little, and sometimes no blue on gorget.

37. Russian Bluethroat. *Luscinia svecica volgæ* (Kleinschmidt).

Common during the winter and early spring.

Distinguished from the former race by having the red spot on the upper breast suffused with white in the male; females and young birds are similar to the other forms of bluethroat.

38. White-spotted Bluethroat. *Luscinia svecica cyanecula* (Wolf).

Common during winter and spring.

The spot on the blue gorget is silky white in the male.

39. Wolf's Bluethroat. *Luscinia svecica magna* (Sarudny and Loudon.)

Uncommon, occurs in late spring.

Males of this form differ from the other bluethroats in having an entirely blue gorget without any central spot, and longer and more slender bills.

40. Nightingale. *Luscinia megarhyncha megarhyncha* Brehm.

Philomela lusciniæ. Shelley, p. 88.

Very abundant during the spring migration and is often heard singing. Less common on return migration in autumn.

About $6\frac{1}{2}$ inches long. Upper parts tawny red, as is also the tail. Lower parts white, washed with slate on the breast and buff on the belly.

41. Sprosser Nightingale. *Luscinia lusciniæ* (Linnæus).

Philomela major. Shelley, p. 88.

Occurs in spring and autumn, but sparingly, and later than the aforementioned.

Duller in coloration than the English nightingale and easily recognized when in the hand by the very small first flight feather.

42. Redbreast. *Erithacus rubecula rubecula* (Linnæus).

Erithacus rubecula. Shelley, p. 87.

A common winter visitor. Paler in coloration and of a more shy disposition than the English redbreast.

Length about 5 inches. Upper parts olivaceous brown, tail and wings darker. Chin, throat and upper breast reddish golden, bordered with a narrow faint grey blue edge; rest of underparts white, washed on flanks with olive.

43. Whitethroat. *Sylvia communis communis* Latham. Plate 12.

Sylvia cinerea. Shelley, p. 111.

Common during both migrations.

About 6 inches in total length. Crown greyish; back brown. Underparts white, tinged with vinous buff. Female duller in coloration.

43a. Eastern Whitethroat. *Sylvia communis icterops* Menetries.

Not noted by Shelley.

Common on migration.

Similar to the typical form but greyer; the red edges on wing feathers paler.

44. Lesser Whitethroat. *Sylvia curruca curruca* (Linnæus).

Plate 12.

Sylvia curruca. Shelley, p. 110.

Very abundant during spring and autumn migrations, while a few winter in Upper and sometimes Lower Egypt.

Length 5 inches. Upper parts greyish brown; a blackish streak through eye. Underparts nearly white. Outer pair of tail feathers blotched with white as in nearly all the members of this genus.

45. Eastern Lesser Whitethroat. *Sylvia curruca affinis* Blythe.

Not mentioned by Shelley.

Of somewhat rare occurrence. Can only be identified when in the hand by the shortness of the second flight feather. In other respects it resembles the preceding.

46. Eastern Subalpine Warbler. *Sylvia subalpina albistriata*

C. L. Brehm. Plate 13.

Sylvia subalpina. Shelley, p. 109.

Very numerous during spring migration, very rare during autumn passage.

About 5 inches in total length. Grey above; chin, throat and breast vinous, a white line on each side of throat, belly white. White on outer pairs of tail feathers. Female paler and sometimes lacks the vinous on chin and throat.

47. **Desert Warbler.** *Sylvia nana nana* (Hemprich and Ehrenberg). Plate 14.

Not mentioned by Shelley.

Of very rare occurrence in Egypt.

Length about $4\frac{1}{2}$ inches. Upper parts sandy brown, pale whitish buff on underparts. Eyelids, legs and feet saffron yellow.

48. **Spectacled Warbler.** *Sylvia conspicillata conspicillata* Temminck. Plate 14.

Sylvia conspicillata. Marmora, Shelley, p. 109.

Numerous during the winter months in the small valleys on the eastern desert and probably also in the western side when suitable scrub exists. Resembles a small whitethroat but is more intensely coloured and has a white ring of feathers round the eye.

49. **Palestine Warbler.** *Sylvia melanothorax* Tristram. Plate 15.

Not mentioned by Shelley.

Has been obtained once only in spring, March 1, 1910, in the Wadi Hôf, near Helwân.

Length about $4\frac{1}{2}$ inches. Crown of head black; back slate grey. Chin, throat and underparts white, spotted with black and grey.

50. **Sardinian Warbler.** *Sylvia melanocephala melanocephala* (Gmelin). Plate 16.

Curruca melanocephala. Shelley, p. 107.

A common winter visitor, more often heard than seen.

Length about 5 inches. Crown black; back slate grey; underparts white, washed on the flanks and vent with grey; white on outer pairs of tail feathers. Female browner above, top of head grey.

51. **Bowman's Warbler.** *Sylvia melanocephala momus* (Hemprich and Ehrenberg). Plate 17.

Not mentioned by Shelley.

A scarce visitor during the spring migration.

Much resembles the aforementioned, but the underparts are pure white without any wash of grey; smaller in size.

52. Ménétriés's Warbler. *Sylvia mystacea* Ménétries.

Not mentioned by Shelley.

Rare during the spring migration.

About $4\frac{1}{2}$ inches in length. Crown of head black; back slate grey; underparts white, washed on the breast with pale pink. Female brown above, buffish white below. White on outer pairs of tail feathers in both sexes.

53. Mrs. Nicoll's Warbler. *Sylvia norrisæ* Nicoll. Plate 18.

As far as is at present known, this species is confined to islets and the tamarisk covered shores of Lake Karûn, in the Faiyûm, where it is resident.

Length about 4 inches; top of head and ear coverts jet black, back hair brown; underparts white, washed with pale pink; some white on outer pairs of tail feathers. Female browner above; underparts pinkish buff.

54. Orphean Warbler. *Sylvia orphea* Temminck.

Curruca orphea. Shelley, p. 104.

Of rare occurrence.

Length about 6 inches. Resembling somewhat a large blackcap, it has white on the outer tail feathers; the back is grey and the female has the head grey.

I have not examined a specimen of this warbler from Egypt, but it is probable that Egyptian examples are referable to the Eastern race, *S. orphea crassirostris*.

55. Ruppell's Warbler. *Sylvia ruppeli* Temminck. Plate 19.

Curruca ruppellii. Shelley, p. 106.

Very common during spring migration, less so during the autumn passage.

Length about $5\frac{3}{4}$ inches. Male, crown, chin, and throat black, the latter bordered by a white stripe; back slate grey; underparts white. The female lacks the black throat (though in very old birds the throat is blackish), and the black on the crown is duller and frequently absent. Both sexes have white on outer pairs of tail feathers.

56. Dartford Warbler. *Sylvia undata* (Boddaert).

Melizophilus provincialis. Shelley, p. 108.

Has been recorded, but at the best it must be of very rare occurrence.

Length $5\frac{1}{2}$ inches. Upper parts of male dark grey, tinged on back with brown; under parts vinous brown; white on centre of abdomen. Female browner and paler below. Both sexes have white on outer tail feathers.

N.B.—All the forms of *Sylvia* found in Egypt have white on the outer pairs of tail feathers, with the exception of the blackcap and garden warblers.

Shelley, p. 108, includes *Sylvia (melizophilus) sarda*, but I think no sufficient proof is forthcoming of its occurrence in Egypt.

57. Blackcap. *Sylvia atricapilla atricapilla* (Linnæus). Plate 20.

Curruca atricapilla. Shelley, p. 105.

Common from September to April; frequently heard singing.

Length $5\frac{3}{4}$ inches. Male, crown of head black; upper parts olive-brown; lower parts white washed with slaty buff. The female has the crown of the head orange-brown, as have immature birds of both sexes.

58. Garden Warbler. *Sylvia simplex* Latham. Plate 20.

Curruca hortensis. Shelley, p. 104.

Not very numerous, a few during both migrations.

Slightly larger than the preceding, which it much resembles except that the crown of the head is of the same colour as the back. The under parts are less grey, more cream coloured. Sexes alike.

59. Gold-crested Wren. *Regulus cristatus* (Linnæus).

Not mentioned by Shelley.

Sometimes visits Lower Egypt in late autumn and mid-winter.

Total length about $3\frac{1}{2}$ inches. Centre of crown golden yellow to golden orange, bordered by a black line; upper parts greenish; under parts buffy white; two pale buff bands on the wing.

60. Fire-crested Wren. *Regulus ignicapillus* (C. L. Brehm).

Not mentioned by Shelley.

The only occurrence of this species in Egypt, known to me, is one male seen at very close quarters on the north-west frontier of Egypt by Capt. E. H. Buxton in November 1916.

Similar to the gold-crested wren, but at once distinguishable by the white stripe over the eye and a dull gold patch on each side of neck. The female, like that of the gold-crested wren, has the "crest" yellower.

61. **Yellow-browed Warbler.** *Phylloscopus superciliosus* (Gmelin).

Not mentioned by Shelley.

Twice seen by the writer, in spring and autumn: November 10, 1909, in the Faiyûm, and April 19, 1912, at Gîza.

Total length about $3\frac{1}{2}$ inches. Greenish brown above, yellowish white below; two bands of yellow across each wing, and a stripe of the same colour down the centre of the head. Females are slightly smaller and duller in coloration.

62. **Chiffchaff.** *Phylloscopus collybita collybita* (Vieillot).
Plate 24, Fig. 3.

Phyllopneuste rufa. Shelley, p. 102.

Very abundant from November to March; some arrive in September and a few remain into April.

About 4 to $4\frac{1}{2}$ inches in length. Duller in coloration than the willow wren and has the feet and legs much darker, almost black. In the hand this species is easily recognizable by having the first three long flight feathers equal in length. Females are considerably smaller than the males.

63. **Eastern Chiffchaff.** *Phylloscopus collybita abietinus* (Nilsson).

Not recognized by Shelley.

Not uncommon during winter. Differs from the previous form in having a shriller call-note.

In coloration it differs from the western form in being less yellow, more brown above, and whiter on the under parts. Females smaller than the males.

64. **Willow Wren.** *Phylloscopus trochilus trochilus* (Linnæus).
Phyllopneuste trochilus. Shelley, p. 103.

Very abundant during the autumn migration and often seen up to middle of October; rarely, if ever, in spring.

Length about $4\frac{1}{2}$ inches. Olivaceous brown above, yellowish white below. Young birds have more yellow on the under parts. Females are slightly smaller than the males.

65. **Eastern Willow Wren.** *Phylloscopus trochilus eversmanni* (Bonaparte).

Not mentioned by Shelley. (Shelley's *Phyllopneuste eversmanni* refers to a different species.)

Occurs during the autumn migration.

Slightly larger than the preceding and almost entirely lacking the yellow coloration in the plumage.

66. **Wood Wren.** *Phylloscopus sibilatrix sibilatrix* (Bechstein).

Phyllopneuste sylvicola. Shelley, p. 101.

Common during the northward passage in April; rare during the autumn migration.

About 5 inches in length. Green above; throat and breast lemon yellow; belly silky white. Females are slightly smaller and less brightly coloured than the males.

67. **Erlanger's Wood Wren.** *Phylloscopus sibilatrix erlangeri* Hartert.

Common in April while on passage.

Like the foregoing, but of a more lemon yellow coloration on under parts and brighter green above, especially on the head.

68. **Bonelli's Warbler.** *Phylloscopus bonellii bonellii* (Vieillot).

Phyllopneuste bonellii. Shelley, p. 101.

Rare in spring and autumn.

Length about $4\frac{1}{2}$ inches. Earthy brown above; rump greenish; silky white on under parts. Females differ from the males in being slightly smaller.

69. **Eastern Bonelli's Warbler.** *Phylloscopus bonellii orientalis* (Brehm).

Not mentioned by Shelley.

Very abundant in spring, less common during the autumn migration.

Similar to the preceding form but has longer wings. Shelley presumably did not notice the difference between this and the typical form.

Shelley (p. 103) evidently included *Phyllopneuste eversmanni* in error.

70. Rufous Warbler. *Agrobates galactodes galactodes* (Temminck). Plate 24, fig. 4.

Aëdon galactodes. Shelley, p. 85.

Abundant as a breeding species in Lower Egypt. Arrives in April and leaves in September.

Length about 7 inches. Upper parts sandy rufous; lower parts whitish. Sexes practically alike.

Easily distinguishable from all the warblers by its habit of cocking and spreading its rufous tail, which is tipped with black and white bars and spots.

71. Olive-tree Warbler. *Hypolais olivetorum* (Strickland).

Hypolais olivetorum. Shelley, p. 99.

Captain Shelley records one shot by a Mr. Rogers near Alexandria, which he alludes to as well authenticated and examined by himself. Such a definite statement made by my late friend is my only reason for including this species amongst the birds of Egypt. I can find no later records of it and have never met with it myself.

Length about 6 inches. Upper parts uniform pale dusky, tinted with olive and slightly paler on upper tail coverts; wings and tail brown, with pale edgings to the feathers; outer tail feathers bordered with white, the next two on each side narrowly tipped with that colour. A faint streak in front of eye dull white. Underparts white tinted with yellow and slightly shaded on the sides with pale stone grey; *beak very broad at the base and surrounded by stout bristles.* (Shelley *partim*.)

72. Egyptian Olivaceous Warbler. *Hypolais pallida pallida* (Hemprich and Ehrenberg).

Hypolais elæica. Shelley, p. 100.

Arrives in March, breeds, and leaves in September and October.

Length about 5 inches. Pale clay brown above, buffy white below; bill stout and broad at base. Sexes alike.

73. European Olivaceous Warbler. *Hypolais pallida elæica* (Lindermeyer).

Once obtained by the writer at Gîza on April 1, 1917.

Similar to the last described but grey above and pure white below.

74. Sykes's Warbler. *Hypolais rama* (Sykes).

Not mentioned by Shelley.

Of rare occurrence in autumn.

Like the above but slightly browner above and with a smaller bill, a longer first and a shorter second primary.

75. Icterine Warbler. *Hypolais icterina* (Vieillot).

Phyllopneuste hippolais. Shelley, p. 103.

Occurs during the autumn migration and probably also in spring.

Length 5 inches. Upper parts olivaceous brown washed with grey; under parts pale lemon yellow; bill broad at base. Sexes similar.

76. Reed Warbler. *Acrocephalus streperus* (Vieillot).

Calamoherpe arundinacea. Shelley, p. 94.

Common on passage in spring and autumn. A few remain throughout the winter.

Length about $5\frac{1}{2}$ inches. Upper parts rufous brown; under parts sulphur and rufous buff. The female is very slightly smaller than the male.

77. Marsh Warbler. *Acrocephalus palustris* (Bechstein).

Calamoherpe palustris. Shelley, p. 94.

Not uncommon during both migrations.

Differs from the reed warbler in being less rufous. The arrangement of the flight feathers is also different, but these points are difficult, if not impossible, to detect unless the bird is in the hand. The legs and feet are yellow and not lead colour as in the reed warbler.

When on the wing it appears less rufous and yellower than the reed warbler, young birds of the year appearing to be almost sulphur coloured.

78. Great Reed Warbler. *Acrocephalus arundinaceus* (Linnæus).

Acrocephalus turdoides. Shelley, p. 96.

A few pass through during both migrations.

Nearly allied to the following species, but bill stouter and plumage less hair-like. The female is very slightly smaller than the male.

79. **Clamorous Reed Warbler.** *Acrocephalus stentorius stentorius* (Hemprich and Ehrenberg).

Acrocephalus stentorius. Shelley, p. 95.

Common in reed beds and resident. Always noticeable by its loud song and call notes.

Length about 6 inches. Brown above and yellowish buff below. Bill more slender than that of preceding species and plumage softer and more hair-like. The female is slightly smaller and rather duller in coloration than the male.

80. **Sedge Warbler.** *Acrocephalus schænobænus* (Linnæus).

Calamodyta schænobænus. Shelley, p. 91.

During spring and autumn migrations only, when it is abundant in suitable localities.

Length about 4 inches. Crown olive brown streaked with blackish brown, back olive marked with black; under parts sulphur buff. Immature birds have the breast spotted with black. Sexes similar.

81. **Aquatic Warbler.** *Acrocephalus aquaticus* (Gmelin).

Calamodyta aquatica (Lath.). Shelley, p. 92.

Of rare occurrence during the autumn migration.

Like a sedge warbler but lighter and more fawn coloured; moreover there is a yellowish buff stripe through the centre of the crown of the head. The female is slightly smaller than the male.

82. **Moustached Warbler.** *Luscinia melanopogon* (Temminck).

Calamodyta melanopogon. Shelley, p. 93.

Not uncommon during winter and early spring in thick reed beds. In the opinion of the present writer it is less common now than it was when Shelley was collecting in Egypt. Much resembles a sedge warbler, but is slightly larger and darker in coloration. Sexes similar.

83. **Savi's Warbler.** *Locustella luscinioides luscinioides* (Savi).

Pseudoluscinia luscinioides. Shelley, p. 89.

Common during both migrations. Has been recorded as resident by some writers, but this statement is open to question, in the opinion of the present writer.

Size rather larger than a sedge warbler. Length about 4½ inches. Above reddish brown, below buff; throat streaked with a few faint brown lines; tail in some lights shows bars; under tail coverts very long. Sexes similar.

84. **Eastern Savi's Warbler.** *Locustella lusciniodes fusca* (Severtzow).

Not mentioned by Shelley.

Once obtained by the writer in the Faiyûm in March 1909.

Differs from the above-mentioned in being more greyish olive and less red on the upper parts.

85. **Grasshopper Warbler.** *Locustella naevia* (Boddaert).

Not mentioned by Shelley.

Once seen by present writer, September 28, 1907, at Gîza.

Length $5\frac{1}{4}$ inches. Above olive brown streaked with black ; throat flecked with dark brown ; under parts buffish white. The female is slightly smaller than the male and usually has more spots on the throat.

86. **Cetti's Warbler.** *Cettia cettii* (Marmora).

Bradypterus cettii. Shelley, p. 89.

Has been recorded, but the evidence is somewhat doubtful.

Length $5\frac{1}{4}$ inches. Red brown above, below whitish.

87. **South European Dipper.** *Cinclus cinclus meridionalis* Brehm.

Not mentioned by Shelley.

A specimen of a dipper which I assign to this form was given to me, after it had been stuffed, by a bird catcher at Alexandria. He told me that he caught five at Mex, Alexandria, in the autumn of 1913, only the one being preserved. Capt. E. H. Buxton tells me that he has seen dippers on the shore on the north-west frontier of Egypt in 1916.

Length about 8 inches. Crown and nape pale chocolate brown. Rest of upper parts, wings and tail greyish black, with lighter tips to the feathers. Chin, throat and breast white ; belly greyish black, slightly washed with brown, separated from the white breast by a dull chestnut band.

88. **Fantailed Warbler.** *Cisticola cisticola cisticola* (Temminck).

Cisticola schænicola. Shelley, p. 97.

Abundant and resident in the cultivation and also in marsh lands.

Length about 3 inches. Males are slightly larger than females. Above yellowish brown with black streaks ; below buff ; tail tipped with black and white blotches. In the winter the

tail is longer than during the summer months. This warbler is noticeable from its habit of flitting in the air over the *bersîm* fields uttering a loud tinkling noise.

89. **Graceful Wren Warbler.** *Prinia gracilis gracilis* (Lichtenstein).

Drymæca gracilis. Shelley, p. 98 (*partim*).

Abundant and resident in the Faiyûm. In the Delta and Northern Egypt other forms occur.

Length about 5 inches. Pale grey above, streaked with black; under parts buffish white; tips of tail feathers marked with dark brown and white blotches. Males are slightly larger than females.

90. **Wadi Natrun Graceful Wren Warbler.** *Prinia gracilis natronensis* Nicoll.

Prinia gracilis natronensis. Nicoll, "Bull. B.O.C.," vol. xxxvii, pp. 29-30.

As far as is known, this form is restricted to the Wadi Natrun. Like the aforementioned, but has a larger bill and longer wings.

91. **Delta Graceful Wren Warbler.** *Prinia gracilis deltæ* Reichenow. Plate 25, fig. 5.

Drymæca gracilis. Shelley, p. 98 (*partim*).

This the darkest of the three Egyptian forms ranges from the north coast and throughout the Delta to as far south as Luxor.

Similar to the foregoing, but slightly smaller and more olive brown above.

92. **Scrub Warbler.** *Scotocerca inquieta inquieta* (Cretzschmar).

Not mentioned by Shelley.

Found in the desert near Helwân and in the Moqattam hills.

Length about $4\frac{1}{2}$ inches. Crown striped with black and white, rest of upper parts sandy isabelline; under parts buffy white striped with brown on throat; tail tipped with white and black. The female is slightly smaller than the male.

93. **Bush Babbler.** *Crateropus acaciæ* (Lichtenstein).

Crateropus acaciæ. Shelley, p. 69.

Resident near Aswân, but has been seen in the desert about two miles from Abbassia, near Cairo.

Length about 10 inches. It has a long tail, is sandy brown above, paler below; head greyish brown.

94. Nuthatch. *Sitta sp.*

Not mentioned by Shelley.

A nuthatch was once seen at Gîza by Captain S. S. Flower on February 10, 1903.

95. Hedge Sparrow. *Accentor modularis* (Linnæus).

Accentor modularis. Shelley, p. 87.

A rare visitor in winter. So far only known from the neighbourhoods of Alexandria and Cairo.

Length about 6 inches. Upper parts brown streaked with black ; under parts slate grey on throat, white on belly, streaked with brown on flanks. Sexes practically alike.

96. White Wagtail. *Motacilla alba alba* Linnæus. Plate 21, Plate 25, fig. 6.

Motacilla alba. Shelley, p. 126.

Extraordinarily abundant during the winter months. Arrives in early October and departs in March and April.

Length about 6 inches. Forehead white ; crown black ; upper parts grey ; chin and throat black ; rest of under parts white. Females have less black on head. Young birds and adults in winter have a black collar on foreneck and a white chin and throat, while some young birds as late as February show little or no black on the crown of the head.

97. Pied Wagtail. *Motacilla alba lugubris* Temminck.

Not mentioned by Shelley.

One seen near Gîza by present writer on February 2, 1912.

Similar to the above but the male is black above instead of grey. After the first moult of the young bird the rump is always black, whereas in the white wagtail it is at all times grey. Females have grey backs but not of so clear a tint as the back of the white wagtail.

98. White-winged Wagtail. *Motacilla vidua* Sundeval. Plate 21.

Motacilla vidua. Shelley, p. 126.

Frequents the cataracts at Aswân.

Length about 8 inches. Somewhat similar to the pied wagtail, but larger and more distinctly marked with black and white. Females are rather duller than males.

99. **Grey Wagtail.** *Motacilla boarula boarula* Linnæus.

Motacilla sulphurea. Shelley, p. 127.

Fairly numerous, in suitable localities, from October to March.

Length about 7 inches. Crown, nape and back pale blue grey; rump green; under parts yellowish buff, more yellow on belly; tail very long and half white and black. In the spring a black throat is assumed by both sexes.

100. **Yellow-headed Wagtail.** *Motacilla citreola* Pallas.

Not mentioned by Shelley.

Occurs but rarely; all of those known to present writer were young birds in autumn plumage.

Length about 6 inches. Head canary yellow; back grey; under parts like the head; tail black, with white on outer tail feathers. Young birds grey above, sometimes brownish, with a grey rump. Under parts white or buffish white, sometimes slightly washed with yellow. Females somewhat resemble young birds but are rather more brightly coloured and washed on the under parts with yellow.

101. **Blue-headed Yellow Wagtail.** *Motacilla flava flava* Linnæus.

Budytes flava. Shelley, p. 128.

Very abundant during the spring migration, and again during the autumn passage, when only adult males are distinguishable from the other allied forms.

Length 6 inches. Crown and nape pale blue grey; eyestripe white; ear coverts like the crown, but with a spot of white in centre. Back greenish; under parts gamboge yellow; outer tail feathers white. Females are duller and often lack the grey on head, which is then greenish. The females and young of all the forms of blue-headed and black-headed wagtails are usually, though not always, very difficult and sometimes impossible to distinguish.

102. **Dombrowsky's Blue-headed Wagtail.** *Motacilla flava dombrowskyi* (Tschusi).

Not mentioned by Shelley.

Not uncommon during the spring migration.

Length 6 inches. In this form the ear coverts are nearly black, and the crown of the head is of a deeper blue than in the preceding form.

103. **Northern Blue-headed Wagtail.** *Motacilla flava thunbergi* Billberg.

Not mentioned by Shelley.

Not uncommon during spring migration and is to be met with on return passage in autumn.

Differs from the previous form in having the entire crown and sides of head dull grey with no eyestripe. Sometimes the forehead is dull blackish grey.

104. **Grey-headed Yellow Wagtail.** *Motacilla flava cinereocapilla* Savi.

Butytes cinereocapilla. Shelley, p. 129 (refers to *M. f. pygmæa*).

Not uncommon in the mixed flocks of yellow wagtails during the spring migration.

Head grey; little or no white eye stripe; chin and upper throat white; otherwise as preceding forms.

105. **Egyptian Blue-headed Wagtail.** *Motacilla flava pygmæa* (Brehm). Plate 25, fig. 7.

Budytes cinereocapilla. Shelley, p. 129.

Resident in cultivated portions of the Nile Valley from the Lake district to as far south as Aswân.

Similar to the above but smaller and more dull in coloration. The females are recognizable from females of all the other "yellow wagtails" by their smaller size.

106. **Black-headed Wagtail.** *Motacilla feldeggii feldeggii* Michaelles.

Budytes melanocephala. Shelley, p. 130.

Very abundant during the spring migration and not uncommon in autumn.

Length 6 inches. Head glossy black; upper parts greenish; chin, throat, and belly buttercup yellow. The female lacks the black head and is duller in coloration.

107. **Yellow Eyestriped Black-headed Wagtail.** *Motacilla feldeggii xanthophrys* Sharpe.

Motacilla xanthophrys. Sharpe, "Cat. Birds Brit. Mus.," vol. x, p. 532.

A few may be seen during the spring migration.

Similar to the aforementioned except for having a yellow eye stripe.

108. **White Eyestriped Black-headed Wagtail.** *Motacilla feldeggii paradoxa* (Brehm).

Not mentioned by Shelley.

A few during spring migration.

Like the last-mentioned but the eye stripe is white. These last two forms are not recognized as distinct from the black-headed form by most writers. I have separated them, however, for the present, as all Egyptian specimens which I have handled are apparently adult birds and easily separable by the characters given above.

109. **Sooty-headed Wagtail.** *Motacilla feldeggii melanogriseus* (Homeyer).

A rare visitor in spring.

Similar to the black-headed form, but the crown of head duller and more ashy; under parts paler yellow.

It should be noted that after the autumn moult even adult males of these yellow wagtails are often difficult to identify with certainty, and it may be that some, if not all, of the above-mentioned migratory forms pass through the country during the autumn migration and are not then recognizable.

110. **Meadow Pipit.** *Anthus pratensis* (Linnæus).

Anthus pratensis. Shelley, p. 131.

Moderately numerous during the winter months.

Length about 5 inches. Olive brown above, marked with black. Under parts buffish or yellowish white on breast, with a few narrow black streaks; belly whitish; rump olive brown. White on outer pairs of tail feathers.

111. **Red-throated Pipit.** *Anthus cervinus* (Pallas). Plate 25, fig. 8.

Anthus cervinus. Shelley, p. 131.

Extraordinarily abundant in the cultivated portions of Egypt from October to April.

Like the meadow pipit, but more streaked with black and light buff above. Rump *heavily streaked with black*. Eye-stripe, throat, and breast rufous red, in some males vinous red. Females and young males sometimes lack the red on under parts, and are never so red as adult males. White on outer pairs of tail feathers.

112. Tree Pipit. *Anthus trivialis trivialis* (Linnæus).

Anthus plumatus. Shelley, p. 130.

Not uncommon during both migrations.

Slightly larger than the red-throated pipit, greener above. Under parts yellowish buff, streaked with black on breast; belly white; rump *unspotted olive brown*. Hind claw shorter than in the meadow, red-throated, and water pipits. White on outer pairs of tail feathers.

This pipit is much less obtrusive in its actions than any other pipit met with in Egypt.

113. Tawny Pipit. *Anthus campestris campestris* (Linnæus).

Plate 26, fig. 9.

Anthus campestris. Shelley, p. 134.

A very common visitor in autumn and spring. In September and October individuals are met with which have not yet completed the moult from nestling plumage.

Length about $6\frac{1}{2}$ inches. Clay brown above, buffish yellow below. Younger birds have black streaks on upper breast. Dull white on outer tail feathers. Sexes alike.

114. Russet Pipit. *Anthus rufulus* Vieillot.

Anthus raalteni. Shelley, p. 133.

Probably not very rare and confused with the tawny pipit. We have three examples in the Giza Museum.

Length about 6 inches. Somewhat like the preceding, but browner above and more spotted on the throat.

115. Richard's Pipit. *Anthus richardi richardi* Vieillot.

Not mentioned by Shelley.

This large pipit (with its loud call note and very large feet) is a winter visitor to Egypt. Some arrive as early as October.

Largest of all pipits; *feet very large*. Sandy olive above, marked with black; chest clay coloured with blackish streaks; belly whitish. White on outer tail feathers.

116. Egyptian Water Pipit. *Anthus spinoletta coutellii* Savigny.

Plate 26, fig. 10.

Anthus spinolettus. Shelley, p. 132.

Common throughout the winter months, though some remain until April. Found only in wet or marshy localities.

Length about $6\frac{1}{4}$ inches. Brown above, dirty white below. Striped on breast with dull brown. Outer tail feathers marked with dirty white. In spring the under parts are vinous buff, very slightly streaked. The hind neck is then greyer than in winter.

117. Eastern Water Pipit. *Anthus spinoletta blakistoni* Swinhoe.
Not mentioned by Shelley.

An occasional visitor in late autumn and winter in the Suez Canal region and possibly elsewhere in Egypt.

Like the former, but paler in coloration, especially on the upper parts.

118. Sunbird. *Nectarinia metallica* Lichtenstein.
Nectarinia metallica. Shelley, p. 112.

Occurs near Aswân sometimes, and Shelley records it at within "20 miles of Philæ."

Length of male about 6 inches. Metallic green head and back; tail and wings and collar blue; under parts yellow. Female dull yellow and brown, and lacks the long tail feathers. In the male the central pair of tail feathers are much elongated.

119. Bulbul. *Pycnonotus arsinoë* (Lichtenstein).
Pycnonotus arsinoë. Shelley, p. 67.

Common and resident in the Faiyûm. Resident in small numbers at Beni Suef, in Upper Egypt, and occurs sporadically at and near Cairo.

Length about 8 inches. Upper parts brown; tail black; head black and brown; throat brownish; under parts dull white.

120. Golden Oriole. *Oriolus oriolus* Linnæus.
Oriolus galbula. Shelley, p. 156.

Passes through Egypt in great numbers during both migrations. Is sometimes heard singing its flute-like notes in spring and occasionally in autumn.

Length about 10 inches. Ear coverts, wings, and most of tail black, rest of plumage golden yellow. Females and young green above, greyish white-streaked with dull black, below.

121. North African Grey Shrike. *Lanius excubitor elegans* Swainson.

Lanius lahtora. Shelley, p. 115.

Common and resident in Lower Egypt and Faiyûm, especially on those parts of the desert which are near to cultivated land.

Length 10 inches. Above pearl grey. Ear coverts black. Wings black, with a white bar; tail black and white; under parts pure white. Young birds in first plumage are fawn-coloured instead of grey.

122. Pale-billed Grey Shrike. *Lanius excubitor pallidirostris* Cassin.

Not mentioned by Shelley.

A few visit Upper Egypt during winter and early spring.

Similar to aforementioned, but duller. Washed with brown above and with rosy brown below, and with a pale brown instead of a black bill.

123. Lesser Grey Shrike. *Lanius minor* Gmelin.

Lanius minor. Shelley, p. 115.

Abundant, especially along the northern coast, during the autumn migration. More rare in spring.

Smaller than the last mentioned. Forehead and ear coverts black; upper parts pearl grey; under parts white, washed with pink; a white bar on wing.

Female duller, and the forehead paler. Young birds have crescent-shaped blackish markings on body plumage and lack the black forehead.

124. Red-backed Shrike. *Lanius collurio* Linnæus.

Lanius collurio. Shelley, p. 117.

Visits Lower Egypt in countless numbers during the autumn migration. I have never seen it in spring. The first arrivals are invariably adult males.

Length about 7 inches. Crown, nape, and rump grey; a black streak through eye. Upper back chestnut; under parts pinkish white. Female brown above; greyish white barred with black below.

125. Woodchat Shrike. *Lanius senator senator* Linnæus.

Lanius auriculatus. Shelley, p. 117.

Very abundant in spring, though less so during the return passage in autumn.

Length about 7 inches. Crown and nape chestnut red; back glossy black; under parts white; flanks pale chestnut. White bar on wings and white bases to all but the central pair of tail feathers. Female duller in coloration.

126. Eastern Woodchat Shrike. *Lanius senator niloticus* (Bonaparte).

Not referred to by Shelley.

In spring this form is more abundant than the preceding, but there are no records of its occurrence during the autumn migration.

Distinguished from the typical form by having the bases of the *central pair* of tail feathers *white* instead of brown.

127. Masked Shrike. *Lanius nubicus* Lichtenstein.

Lanius nubicus. Shelley, p. 116.

Abundant during both migrations. Sometimes breeds in Upper Egypt.

Length about 7 inches. Forehead white; rest of upper parts black; under parts white; flanks pale chestnut. White in wings and tail. Female duller in colour.

128. Spotted Flycatcher. *Muscicapa grisola grisola* (Pallas).

Plate 26, fig. 11.

Muscicapa grisola. Shelley, p. 118.

Abundant as a visitor during both migrations.

Length 5 inches. Back brownish grey; crown striped with brown; under parts white; striped with brown on breast.

129. Pied Flycatcher. *Muscicapa atricapilla atricapilla* (Linnæus).

Muscicapa atricapilla. Shelley, p. 119.

Common during the spring migration; very scarce on return passage.

Length about 4 inches. Forehead white; crown and back jet black; under parts white; white in tail and wings. An adult male after the autumn moult has the upper parts brown, and at that stage somewhat resembles the female and young birds, which have the upper parts brown, lower parts dull white, wings and tail blackish, with a white bar on the wings and white on outer tail feathers.

130. Half-collared Flycatcher. *Muscicapa atricapilla semi-torquata* Homeyer.

Not mentioned by Shelley.

Common during the spring migration.

Resembles the preceding, from which it only differs in having a white patch on each side of the neck, which nearly meet on back of neck.

131. Collared Flycatcher. *Muscicapa collaris* Bechstein.
Plate 26, fig. 12.

Muscicapa collaris. Shelley, p. 120.

Very common during the spring migration.

Though the collared flycatcher differs, superficially, but little from the two aforementioned forms, it is really very distinct, and it is now considered advisable to point out the distinguishing characteristics of the three black and white flycatchers which pass through Egypt :—

Muscicapa atricapilla atricapilla.—The three outer pairs of tail feathers (*rectrices*) show white.

Muscicapa atricapilla semitorquata.—The three outer pairs of tail feathers are as in the above, but the white on the neck extends backwards and forms almost a white collar, which is broken by the black of the nape joining the back.

Muscicapa collaris.—Only the outer pair of tail feathers have any white as a rule, though there is sometimes a white patch on the outer web of the second pair, but never on the third pair, whereas, in the two previously mentioned forms, the white is often extended to the inner web of the third pair of tail feathers. In the present species, however, there is a broad white collar encircling the whole neck in adult males.

The females of these three forms are usually only distinguishable when in the hand.

132. Red-breasted Flycatcher. *Muscicapa parva* Bechstein.

Not mentioned by Shelley.

A regular visitor during the end of the autumn migration, *i.e.* October and November.

Length about 4 inches. Upper parts brown ; breast pale orange red ; *base of tail white* ; belly white. In females and young birds the breast is dull brownish orange.

133. The Swallow. *Hirundo rustica rustica* Linnæus.

Hirundo rustica. Shelley, p. 120.

Extremely numerous during the spring and autumn migrations.

Length 8 inches. Upper parts metallic blue ; chin and throat brick red ; a dull blue-black band on fore neck ; rest of under parts white or rufous (depending on age). Outer tail feathers much elongated. White spots on tail feathers.

134. Egyptian Swallow. *Hirundo rustica savignii* Stephens.

Hirundo riocourii. Shelley, p. 121.

A common resident. Differs from aforementioned by its dark reddish under parts.

Nests in native houses.

135. Red-rumped Swallow. *Hirundo daurica rufula* Temminck.

Hirundo rufula. Shelley, p. 122.

A somewhat scarce visitor during both migrations.

Length about 9 inches. Easily recognizable by its large size, pale red rump and red collar round hind neck, and no collar on fore neck.

136. House Martin. *Chelidon urbica urbica* (Linnæus).

Chelidon urbica. Shelley, p. 125.

Common during the spring and autumn migrations. Many pass through during May and even June, going north.

Length about 6 inches. Under parts and rump dull white, rest of plumage metallic blue. Legs and feet are feathered.

137. North African House Martin. *Chelidon urbica meridionalis* (Hartert).

Not mentioned by Shelley.

Occurs in small numbers during the spring migration. Can only be distinguished by its shorter wings from the European house martin.

138. Sand Martin. *Riparia riparia riparia* (Linnæus).

Cotyle riparia. Shelley, p. 125.

A very common migrant in spring and autumn.

Length about $4\frac{1}{2}$ inches. Brown above, white below; a brown collar on fore neck.

139. Pale Sand Martin. *Riparia riparia diluta* (Sharpe and Wyatt).

Not mentioned by Shelley.

Amongst the large flocks of the common sand martin which pass through in spring paler examples occur which are referable to this form.

Resembles the foregoing, but is paler on the upper parts.

140. **Egyptian Sand Martin.** *Riparia riparia littoralis* (Heuglin).
Cotyle minor. Shelley, p. 124.

Found in enormous numbers in suitable localities during the breeding season. A few remain throughout the year.

Similar to the English sand martin, but *much* smaller.

141. **European Crag Martin.** *Cotile rupestris rupestris* (Scopoli).
Cotyle rupestris. Shelley, p. 122.

Not uncommon during the winter months, especially in Upper Egypt.

Length about $5\frac{1}{2}$ inches. Upper parts brown, below brownish white; a few brown flecks on chin; white spots visible on outspread tail; under tail coverts brown.

142. **Pale Crag Martin.** *Cotile rupestris obsoleta* Cabanis.
Cotyle obsoleta. Shelley, p. 123.

Common in rocky desert country and near Pyramids and old temples. Resident.

Slightly larger than the sand martin; pale mouse-grey above, whitish below. The tail feathers show white spots when outspread.

143. **Amadavat Finch.** *Sporæginthus amandava* (Linnæus).
Estrela melanorhyncha. Shelley, p. 152.

During the last four years a resident. Formerly only met with as a breeding visitor from August to October. Probably this species originated in Egypt from individuals escaped from confinement, though its absence near Cairo in winter (except in isolated cases) up to 1914 and its abundance at that season now is remarkable.

Length about $3\frac{1}{2}$ inches. Upper parts brown tinged with crimson, under parts crimson speckled with white. Female yellowish below and more brown above, with a crimson rump. After the breeding season the male assumes a plumage similar to that of the female, though somewhat brighter.

144. **Goldfinch.** *Carduelis carduelis carduelis* (Linnæus).
Carduelis elegans. Shelley, p. 152.

A resident in small numbers. The few examples examined by the writer belong to this, the central and southern European form.

Length about 5 inches. Upper parts hair brown. Round beak and eyes black; forehead and chin crimson; top of head and round ear coverts black; ear coverts nearly white; wings black, with a golden yellow bar; quills tipped with white; tail black and white and tipped with white. Under parts white; a dull brown patch across the breast.

145. Siskin. *Chrysomitris spinus* (Linnæus).

Not mentioned by Shelley.

Of irregular occurrence from autumn to spring. In 1907 great numbers appeared in Egypt.

Length 4 inches. Top of head and chin black; eye stripe yellow; greenish olive above, streaked with black; rump yellow; breast yellow; belly white; flanks streaked with black.

146. Serin. *Serinus serinus* (Linnæus).

Serinus hortulanus. Shelley, p. 154.

Occurs in flocks during the winter and earlier part of the year. Pairs and sings in February and March. No records of its nesting in the country.

Length about 4 inches. Above grey streaked with black; rump greenish yellow; breast green, striped on sides with black; belly dull white; flanks streaked with black. Female is duller and has less green in the plumage.

147. Greenfinch. *Ligurinus chloris* subsp.

Not mentioned by Shelley.

Flocks seen on banks of Suez Canal in autumn. Single individuals noted from time to time in autumn at Giza and in the Wadi Natrun. No specimens from Egypt examined. The birds of the species occurring in Egypt may be the brightly coloured *L. c. aurantiiventris*, which inhabits South Europe and occurs in North-west Africa.

Length about 5 inches. Head, neck, and under parts green. Upper parts olive brown. Wings and tail blackish, with yellow bars.

148. Hawfinch. *Coccothraustes coccothraustes coccothraustes* (Linnæus).

Coccothraustes vulgaris. Shelley, p. 150.

A few in Lower Egypt during the autumn.

Length 7 inches. Lores and chin black. Crown, cheeks, and rump reddish brown. Back and sides of neck brownish

grey. Mantle and scapulars dark brown. Wings black, with a white patch. All the quills showing metallic reflections and the inner ones somewhat sickle-shaped. Under parts white and buff.

149. Egyptian House Sparrow. *Passer domesticus niloticus*
Nicoll and Bonhote.

Passer domesticus. Shelley, p. 148.

Passer domesticus niloticus. Nicoll and Bonhote "Bull. B.O.C.,"
vol. xxiii, p. 101.

An abundant resident, from the coast of the Mediterranean to as far south as Dongola in Upper Nubia, where it meets and interbreeds with the red-backed sparrow, *P. d. arboreus*.

Differs from the English house sparrow in being greyer and paler.

The tree sparrow, *Passer montanus*, has been included by some authors in the Egyptian list, but I much doubt if it has ever occurred in the country. At any rate, it is inadvisable to include it here until we have definite proof of its occurrence.

150. Spanish Sparrow. *Passer hispaniolensis* (Temminck).

Passer salicicola. Shelley, p. 149.

Vast numbers winter in Egypt, where they arrive in September. During this time they attack the crops. Possibly a few remain to breed, but as yet there is no proof of the fact.

Differs from the house sparrow in having the top of the head chestnut and the sides of body spotted with black. Females resemble those of the house sparrow, but have the breast and flanks slightly streaked with blackish brown.

There seems to be no positive record of the Italian sparrow (*P. italiae*) from Egypt. It may be distinguished from the house sparrow by its red crown and from the Spanish sparrow by having no black streaks on the flanks and sides of breast.

151. Chaffinch. *Fringilla cœlebs cœlebs* Linnæus.

Fringilla cœlebs. Shelley, p. 151.

A common winter visitor to Lower Egypt. Arrives in November and departs in March and April.

Length 6 inches. Male, crown and nape grey; back chestnut; rump yellowish green; upper wing coverts white; greater coverts black, tipped with yellowish white; quills brownish black; central tail feathers dark grey, the rest black, with

broad white patches on the two exterior pairs; cheeks, throat, and under parts pinkish brown; bill lead colour; feet and legs brown. Female lacks the pink under parts and is duller in coloration all over.

152. Brambling. *Fringilla montifringilla* Linnæus.

Not mentioned by Shelley.

Apparently a rare winter visitor near Alexandria. I have examined three living examples which were said to have been netted there.

Length about 6 inches. Male, upper parts, including sides of head, glossy blue black, with whitish bases to the feathers. Upper wing coverts orange buff tipped with white; greater coverts black margined with white. *Rump white*, mottled with black; tail black, with a little white on outer pair of feathers; throat and breast reddish fawn; belly dull white; flanks spotted with black; under wing coverts bright yellow. (Howard Saunders, *part.*) In the winter the feathers of the upper parts have broad buff edges. Females and young are duller and have the black upper parts replaced with brown.

153. Mediterranean Linnet. *Linota cannabina mediterranea* Tschusi.

Linota cannabina. Shelley, p. 154.

Abundant in the cultivated portions of Lower and Middle Egypt during the winter months. In early spring assembles in large flocks and in March, just before departure, a few may be heard in full song. Similar to the English linnet, but paler red on the breast and whiter on the rump.

Length 5 inches. Adult male, forehead pinkish red, as is also the breast, the feathers having a metallic lustre; head grey; back reddish brown; rump striped with black and white; wings and tail black, the feathers edged with white; flanks brownish chestnut; belly whitish. Females, young birds, and most males in winter plumage lack the metallic red on face and breast, and the latter is striped with brown.

154. Trumpeter Bullfinch. *Erythropsiza githaginea githaginea* (Lichtenstein).

Erythropsiza githaginea. Shelley, p. 155.

Abundant and resident in Upper Egypt from Asyût to Shellâl.

Length about 5 inches. Brown above, whitish below, and washed with pink. Bill coral red, paler and more orange in winter. Females are duller in colour and have yellower bills than the males.

155. Zeidlitz's Trumpeter Bullfinch. *Erythrospiza githaginea zeidlitzii* Neumann.

Not mentioned by Shelley or other writers.

This larger, paler, more Western race takes the place of the typical form in suitable localities in Lower Egypt, but is uncommon.

Like the aforementioned, but larger and with more pink in the wings.

156. Corn Bunting. *Emberiza calandra calandra* Linnæus.

Emberiza miliaria. Shelley, p. 144.

A very common winter visitor. Sometimes heard singing in early spring.

Length about 7 inches. Back olive brown streaked with black, as are also the whitish under parts. Sexes similar.

157. Ortolan Bunting. *Emberiza hortulana* Linnæus.

Emberiza hortulana. Shelley, p. 145.

A regular visitor in spring, but of a shy disposition and therefore not often seen. More rare in autumn.

Length 6 inches. Head and throat greenish yellow; back mottled with brown and black; belly and flanks rufous. Females and young duller in colour, the latter having little or no yellow on the head, which is brown streaked with black.

158. Cretzschmar's Bunting. *Emberiza caesia* Cretzschmar.

Emberiza caesia. Shelley, p. 146.

Usually an abundant visitor during the autumn migration, but less common in spring.

Length about 6 inches. Head blue grey; under parts chestnut; back mottled with brown and black.

159. Western Large-billed Reed Bunting. *Emberiza palustris palustris* Savi.

Emberiza intermedia. Shelley, p. 147.

One example only known from Egypt. Collected by the late Captain G. E. Shelley in a marsh near Damietta in March, and now in the British Museum.

Length about 8 inches. Coloration resembles that of the English reed bunting. Bill much stouter. See next species.

160. Eastern Reed Bunting. *Emberiza schæniclus canneti* (Brehm).

Not mentioned by Shelley.

Occurs during the winter in marshy places on the Suez Canal and possibly elsewhere in Egypt.

Paler than the English reed bunting.

Length 6 inches. Male, crown and sides of head, chin, and throat black; sides of neck and collar round hind neck, breast, and abdomen white; back, wing coverts, and secondaries pale reddish brown streaked with blackish brown; wing and tail feathers blackish, with white patches on two outer pairs of the latter; flanks streaked with brown. Females and young lack the black on head and throat, and are duller in coloration.

161. Bifasciated Lark. *Alæmon alaudipes alaudipes* (Desfontaines).

Certhilauda desertorum. Shelley, p. 135.

A common resident in suitable desert localities.

Length about 9 inches. Back sandy; belly white; throat blotched with black; wings barred with black and white; legs long and white; bill dusky, long, and decurved.

162. Dark-crested Lark. *Galerida cristata nigricans* (Brehm).
Plate 23, Plate 27, fig. 13.

Galerita cristata. Shelley, p. 138.

Common and resident in the central portion of the Delta, where the soil is rich and dark coloured.

Length about 7 inches. Very dark olive brown above, spotted with black; throat and breast dull whitish, heavily marked with black streaks; belly dull brownish white; outer tail feathers marked with buffish brown.

163. Faiyûm Crested Lark. *Galerida cristata mæritica* Nicoll and Bonhote.

Galerida cristata mæritica. Nicoll and Bonhote, "Bull. B.O.C.," vol. xxiii, 1909, p. 101.

Abundant and resident in the Faiyûm.

Paler than the Delta form. The streaks on the breast are narrower and more clearly cut. Wings slightly longer.

164. Brehm's Crested Lark. *Galerida cristata altirostris* Brehm.

Galerita altirostris. Brehm, *Volgelfang*, 1855, p. 124.

Inhabits the poorer soil on the edge of the cultivation from the Mediterranean coast to Aswân.

Paler and more ochreous on upper parts than the former. Spots on breast not so dark or distinct. Wings shorter.

165. Pale Crested Lark. *Galerida cristata caroli* Hartert.
Plate 23.

Resident in the Wadi Natrun and in the sandy and lake districts of Lower Egypt.

Very sandy coloured on upper parts. Whitish below, with narrow brownish streaks on the breast.

166. Short-tailed Crested Lark. *Galerida cristata brachyura* Tristram.

Resident at Suez and neighbourhood.

More rufous than the preceding.

Shelley, page 138, recognizes the difference in coloration of some of the Egyptian crested larks, but does not separate them as races.

167. Grey Skylark. *Alauda arvensis cinerea* Ehmcke. Plate 27,
fig. 15.

Alauda intermedia. Shelley, p. 140.

Common throughout the winter months.

Much greyer than the English skylark.

Length $7\frac{1}{2}$ inches. Upper parts grey brown mottled with dark brown; under parts creamy white; the throat and fore neck streaked with brown; tail brown, the central pair of feathers grey brown, white on the outer pair; wing brown edged with white.

168. Intermediate Skylark. *Alauda arvensis cantarella* Bonaparte.

Alauda arvensis. Shelley, p. 139.

Common throughout the winter months.

Resembles the former, but is browner in coloration.

169. Indian Skylark. *Alauda gulgula inconspicua* Severzow.

Not previously recorded from Egypt or Africa.

Two seen and one obtained by the writer in the Wadi Natrun, Lower Egypt, in October 1914.

Smaller than a skylark and more yellowish in coloration.

170. Wood Lark. *Lullula arborea* (Linnæus).

Alauda arborea. Shelley, p. 139.

An autumn visitor to Lower Egypt. Not common.

Smaller than the skylark, and darker brown above. A whitish band through each eye, which practically meets at back of head; tail shorter and wings more rounded than those of the skylark.

171. Calandra Lark. *Melanocorypha calandra calandra* (Linnæus).

Melanocorypha calandra. Shelley, p. 143.

Common in western portion of Egypt, near Daba'a, in autumn, and a few pass eastwards to Giza.

Length about $7\frac{1}{2}$ inches. Above brown striped with black; sides of neck marked with black patches; bill large. Altogether a stouter bird than the skylark.

172. Clot Bey's Lark. *Rhamphocorys clot-bey* (Bonaparte).

Rhamphocoris clot-bey. Shelley, p. 144.

The type of this species was procured in Egypt, and, as it is not uncommon west of the Egyptian frontier, it probably occurs in the extreme north-west of Egypt, where no collecting has been done for many years.

Length about 7 inches. Reddish sandy brown above; below white with brown streaks; sides of head and neck black; *bill very large and stout.*

173. Desert Horned Lark. *Otocorys bilopha* (Temminck).

Not mentioned by Shelley.

Resident and abundant in and near the Wadi Natrun. In winter it congregates in flocks, and is sometimes found near Abu Ruweish, in Giza Province. It has also occurred on the east side of the Nile, near Heliopolis.

Length about $5\frac{1}{2}$ inches. Reddish sand colour on back; white belly; a black band on fore neck and on forehead and two black horn-like tufts on forehead; wing and tail feathers black. Young birds in first plumage lack the black markings on breast and head and are more sandy coloured above.

174. Desert Lark. *Ammomanes deserti deserti* (Lichtenstein).

Ammomanes fraterculus. Shelley, p. 137.

Common on the desert from Luxor southwards. Sometimes met with near Cairo. Resident.

Length about 6 inches. Sandy grey above and dull whitish buff below; faintly streaked on upper breast with brown.

175. **Isabelline Desert Lark.** *Ammomanes deserti isabellina* (Temminck).

Abundant in the desert near Cairo on the east bank of the Nile. Resident.

Like the preceding, but more sandy coloured on the back.

176. **Algerian Desert Lark.** *Ammomanes deserti algeriensis* Sharpe.

Frequents the desert on the west side of the Nile, near Sohag and Luxor, and probably in other places in Upper Egypt.

Similar to the aforementioned, but of a more pinkish sand colour on upper parts.

177. **Little Desert Lark.** *Ammomanes phœnicura arenicola* Sundeval.

Ammomanes arenicola. Shelley, p. 137.

Usually frequenting flat desert country on both sides of the Nile from the Suez Canal to Nubia.

Length about 5 inches. Sandy red brown above, whitish below; tail sandy red with blackish bar at the end. This desert lark is easily distinguished from the other Egyptian *Ammomanes* by the colour of its tail, which is sandy red with a dark terminal bar.

178. **Short-toed Lark.** *Calandrella brachydactyla brachydactyla* (Leisler). Plate 27, fig. 14.

Calandrella brachydactyla. Shelley, p. 141.

Very abundant during both migrations.

Length about 5 inches. Sandy brown above flecked with black; under parts whitish; a black patch on each side of neck.

179. **Rufous-crowned Short-toed Lark.** *Calandrella brachydactyla rubiginosa* Fromholz.

A few pass through in spring and autumn. It has bred in the country.

Similar to the forementioned but more sandy in colour. Crown of head rufous.

180. **Long-winged Short-toed Lark.** *Calandrella brachydactyla longipennis* (Eversmann). Plate 22.

Not mentioned by Shelley.

A bird of passage occurring in numbers during both migrations.

Like the last-mentioned, but upper parts greyer and wings usually longer. No rufous on crown of head.

181. **Lesser Short-toed Lark.** *Calandrella minor minor* (Cabanis).

Calandrella minor. Shelley, p. 142.

Of rare occurrence in spring.

Smaller than the last-mentioned, but more sandy coloured above, and throat and breast flecked with blackish brown. *No black patches on sides of neck.*

182. **Nicoll's Lesser Short-toed Lark.** *Calandrella minor nicolli* Hartert. Plate 22.

Common and resident in suitable parts of the northern Delta.

Similar to the aforementioned, but more dusky coloured above.

183. **European Lesser Short-toed Lark.** *Calandrella minor heinei* (Homeyer).

A rare visitor or straggler.

Similar to above, but more greyish rufous on the upper parts.

184. **Finch Lark.** *Pyrrhulauda melanauchen* Cabanis.

Not mentioned by Shelley.

One male obtained in the Wadi Natrun, Lower Egypt, on September 10, 1911, and three more seen during the winter of 1912-1913.

Length about 4 inches. Male, crown and nape and hind neck black encircled by a narrow white collar on hind neck. Ear coverts white. Under parts and under wing coverts black. Mantle and back sandy brown; tail and wing feathers deep brown edged with sandy brown; outer tail feathers sandy white. Female has the black replaced by sandy brown.

185. **Starling.** *Sturnus vulgaris sophiae* Bianchi.

Sturnus vulgaris. Shelley, p. 157.

A common winter visitor.

Length about 8 inches. Black, spotted on upper parts with buff and on under parts with white; back, head, and flanks washed with purple, ear coverts and chest with green.

186. **Poltaratsky's Starling.** *Sturnus vulgaris pollaratskyi* Finsch.

Not mentioned by Shelley.

Common during the winter months; a few remain until the middle of March.

Similar to the aforementioned, but differing in the coloration of the metallic parts of the plumage. Back washed with metallic green, flanks with purple.

187. Purple Starling. *Sturnus vulgaris purpurascens* Gould.

Not mentioned by Shelley.

Not uncommon in winter.

Washed on back and belly, flanks and wings with deep reddish purple, throat with a green gloss.

188. Rose-coloured Pastor. *Pastor roseus* (Linnæus).

Pastor roseus. Shelley, p. 157.

One was shot in a field near Cairo on August 25, 1864. Cf. Shelley, "Birds of Egypt," p. 157.

Length 8 inches. Like a starling, but head black and tufted; back and belly pink in the adults, greyish in young birds; wings and tail black.

189. Hooded Crow. *Corvus cornix cornix* Linnæus.

Corvus cornix. Shelley, p. 159.

Although abundant and resident in Lower Egypt, the distribution of this crow is peculiar. For no apparent reason some parts of the country, although presumably well suited to the species, are entirely devoid of hooded crows.

Length about 18 inches. Back, lower breast, flanks, and abdomen grey; rest of plumage black, with a bluish gloss.

190. Rook. *Corvus frugilegus* Linnæus.

Corvus frugilegus. Shelley, p. 159.

A scarce visitor in winter at the present day, though Shelley records "large flocks" in the Delta up to the end of March.

Length about 18 inches. Whole plumage black, glossed with purple and green. Old birds have the face bare.

191. Brown-necked Raven. *Corvus umbrinus umbrinus* Sundevall.

Corvus umbrinus. Shelley, p. 158.

Usually restricted to the desert or the edge thereof, where it is common and resident.

Smaller than the English raven, and usually has a brownish neck.

192. Sinaitic Raven. *Corvus umbrinus infumatus* Wagner.

Inhabits the desert near Suez. Distinguished from the foregoing by its more slender bill.

193. Abyssinian Raven. *Corvus rhipidurus* Hartert.

Corvus affinis. Shelley, p. 158, et auctorum.

Has occurred in Egypt (Shelley, "Birds of Egypt," pp. 158-159). It is also recorded from Middle and Southern Egypt by Hartert, and was seen near Thebes by J. H. Gurney in 1876.

Smaller than the brown-necked raven. Wings more rounded, nasal feathers arranged in a fanlike form.

[The jackdaw, *Corvus monedula*, has been stated to occur in Egypt (see Shelley, "Birds of Egypt," p. 160). This record is, I consider, quite rightly doubted by Captain Shelley. Also one seen by Captain S. S. Flower in Cairo was presumably an escaped individual. I also doubt if the magpie, *Pica pica*, has ever occurred in a wild state in Egypt. Cf. Shelley, p. 160.]

PICARIÆ.

194. Eastern Swift. *Cypselus apus marwitzi* Reichenow.

Cypselus apus. Shelley, p. 172.

Uncommon during migration; the following takes its place as a resident in the country.

Length $6\frac{3}{4}$ inches. Throat and forehead whitish, rest of plumage very dark brown, almost black.

195. Pale Swift. *Cypselus apus murinus* (Brehm).

Cypselus pallidus. Shelley, p. 172.

Common and resident, though its numbers are augmented during the breeding season by immigrants.

Similar to the aforementioned, but paler and more greyish brown in coloration.

196. Alpine Swift. *Cypselus melba* (Linnæus).

Cypselus melba. Shelley, p. 171.

A few pass through during the spring and autumn migration. Easily recognizable by its large size and white under parts.

Length, to tip of tail, 8 inches; wing $8\frac{1}{4}$ inches. Chin and abdomen white; a blackish patch in front of the eye; rest of plumage mouse brown.

197. **Little Grey Swift.** *Cypselus parvus* Lichtenstein.

Cypselus parvus. Shelley, p. 173.

As this swift has been recorded within the boundaries of Egypt (*cf.* Shelley, p. 173) it must be included in the present list. The true home of this species, however, is in Nubia and the Sudan.

Length about 6 inches. Dull slate brown; tail forked like that of a swallow.

198. **Nightjar.** *Caprimulgus europæus europæus* Linnæus.

Caprimulgus europæus. Shelley, p. 174.

A regular visitor during migration.

Length $10\frac{1}{4}$ inches. Upper parts ash grey blotched with pale chestnut and pencilled with black; under parts dull buff finely barred with black; white patches on sides of the neck. The adult male has large white blotches on the outer wing and tail feathers. In females and young birds these blotches are buffish brown.

199. **Sarudny's Nightjar.** *Caprimulgus europæus sarudnyi* Hartert.

Not mentioned by Shelley.

Not uncommon during the autumn migration.

Similar to but greyer than the common nightjar. The white patch on the second primary extends to the outer web.

200. **South European Nightjar.** *Caprimulgus europæus meridionalis* Hartert.

Not uncommon during the autumn migration.

Somewhat similar to but paler and smaller than *Caprimulgus europæus*.

201 **Egyptian Nightjar.** *Caprimulgus ægyptius ægyptius* Lichtenstein.

Caprimulgus ægyptius. Shelley, p. 175.

Common in the desert and in poorly cultivated places during both migrations.

Greyer and paler than any of the foregoing, though not so sandy coloured as the following form.

Length about 10 inches. Sandy brown above, vermiculated and blotched with black; a white patch on throat; lower parts pale sandy brown finely barred on chest with dusky brown; wings blotched on inner webs of feather with sandy brown; tail barred with wavy dusky bars.

202. **Saharan Nightjar.** *Caprimulgus ægyptius saharæ* Erlanger.

Caprimulgus ægyptius. Shelley, p. 175.

Resident throughout the year in Egypt, where it breeds.

Paler and much more sandy coloured than the aforementioned. Intermediate examples between this and the typical form are met with.

203. **Wryneck.** *Iynx torquilla torquilla* Linnæus.

Iynx torquilla. Shelley, p. 161.

Numbers pass through in spring and autumn, and sometimes individuals remain throughout the winter.

Length about 7 inches. Above grey and brown speckled and banded with black; chin and throat dull yellow barred with black; belly whitish, speckled with black; tail grey barred and vermiculated with black.

204. **Kingfisher.** *Alcedo ispida ispida* Linnæus.

Alcedo ispida. Shelley, p. 165.

Recorded by Shelley, but possibly confused to a large extent with the next mentioned, which he calls *Alcedo bengalensis*. I have never met with the typical form in Egypt.

Length $6\frac{1}{4}$ inches. Head crested; crown blackish, barred with cobalt blue; centre of back and rump bright cobalt blue; a white patch on sides of neck; wings and tail blackish; under parts chestnut; chin and throat buffish white. Bill of male wholly black. The female has the base of the lower mandible dull red.

205. **Pale Kingfisher.** *Alcedo ispida pallida* Brehm.

Alcedo bengalensis. Shelley, p. 166.

Very abundant from August to April. Often confused with the former race, which it much resembles superficially.

Captain E. H. Buxton informs me that several pairs bred on the coast at the north-western boundaries of Egypt in the summer of 1916.

Similar to English kingfisher, but smaller, though the bill is longer; under parts sometimes whitish rufous.

206. **Pied Kingfisher.** *Ceryle rudis* (Linnæus).

Ceryle rudis. Shelley, p. 167.

Common in suitable localities, where it is resident.

Length about 10 inches. Slate colour and white above; head crested; bluish collar round fore neck; under parts white. Adult males have a second and smaller collar on fore neck.

207. **Smyrna Kingfisher.** *Halcyon smyrnensis* (Linnæus).

Not mentioned by Shelley.

Captain Flower examined a stuffed specimen in the winter of 1899–1900 at Zagazig, said to have been shot at Zagazig a few years previously by a Mr. C. Vetter, an old resident of Zagazig.

Sir Alexander Baird tells me that many years ago he and a friend of his saw one between Alexandria and Cairo from the train. His friend went back later and shot it.

“When Macgregor speaks of a large Indian Kingfisher arrayed in red and blue on the Zrier River near Mansura, in “The Rob Roy on the Jordan,” he probably alludes to *Halcyon smyrnensis*.” See Gurney, “Rambles of a Naturalist,” page 123.

Length about 10 inches. Blue above, red below; white on the wings, throat, and breast.

208. **Roller.** *Coracias garrulus garrulus* Linnæus.

Coracias garrula. Shelley, p. 168.

Very abundant as a bird of passage in autumn, but far less common during the return migration in spring.

Length 14 inches. Brown above; wings blue; under parts and head green. Females duller in coloration.

209. **European Bee-eater.** *Merops apiaster* Linnæus. Plate 28, fig. 16.

Merops apiaster. Shelley, p. 169.

Passes through Egypt in great numbers during both migrations.

Length about $11\frac{1}{2}$ inches. Brownish yellow above; chin yellow, bordered below with a black band; belly bluish green; central tail feathers slightly elongated.

210. **Eastern Blue-cheeked Bee-eater.** *Merops persicus persicus* Pallas. Plate 28, fig. 17.

Merops ægyptius. Shelley, p. 170.

Arrives in Lower Egypt in spring, where it breeds; never seen during the winter.

Size of former. Grass green; throat dull red; a black stripe through eye; blue and white on cheeks; central tail feathers slightly elongated.

211. **Egyptian Little Green Bee-eater.** *Merops orientalis cleopatra* Nicoll. Plate 28, fig. 18.

Merops viridis, Linn. Shelley, p. 171.

Merops viridis cleopatra. Nicoll, "Bull. B.O.C.," Nov., 1910, page 11.

Abundant and resident in Middle and Upper Egypt where it breeds. It nests in holes in the ground. Some migrate in winter to the Sudan, where a more bronze green form is resident.

Much smaller than the preceding. Grass green; black line through eye; dull red patch on wing (seen when in flight); central tail feathers long.

212. **Hoopoe.** *Upupa epops epops* Linnæus. Plate 29, fig. 19.

Upupa epops. Shelley, p. 165.

Extremely abundant during the spring and autumn migrations.

Length 12 inches. Head and neck rufous; a large erectile crest rufous tipped with black and white; throat and breast pinkish rufous; belly whitish; back brown; wings black, broadly barred with white, as is also the black tail; bill long, thin and decurved; legs short.

213. **Brehm's Hoopoe.** *Upupa epops major* Brehm. Plate 29, fig. 20.

Not distinguished by Shelley from the aforementioned.

Resident in Egypt throughout the Delta and to as far south as Aswân.

Differs from the aforementioned in having a longer, thicker bill, especially deep at the base, and in being somewhat duller in coloration.

214. **Cuckoo.** *Cuculus canorus canorus* Linnæus.

Cuculus canorus. Shelley, p. 162.

Passes through Egypt in moderate numbers during both migrations. The characteristic note is not often uttered in this country.

Length 15 inches. Upper parts blue grey; chin and throat paler grey; rest of under parts buffish white barred with black; wings and tail black, spotted with white on the quill feathers. During the spring migration examples of this form are met with of a bright chestnut colour above barred with black. The under parts are barred from the chin downward, and there is no grey in the plumage.

215. **Great Spotted Cuckoo.** *Coccystes glandarius* (Linnæus).

Coccystes glandarius. Shelley, p. 162.

Probably a resident in Upper Egypt. It visits Middle Egypt in small numbers in spring and lays its eggs in the nest of the hooded crow. Uncommon in Lower Egypt.

Length 18 inches. Head crested and pale slate grey ; upper parts brownish ; wing and tail feathers tipped with white ; tail bronze black ; throat buff ; rest of under parts whitish.

Young birds have the head darker and the throat more yellowish buff, and the wing feathers strongly marked with rufous chestnut.

216. **Lark-heeled Cuckoo.** *Centropus ægyptius* (Gmelin).

Centropus ægyptius. Shelley, p. 164.

Abundant and resident on the Rosetta branch of the Nile and in the Faiyûm. We have a specimen from near Gîza.

Length 18 inches. Crown, sides of head and nape black, with a green gloss ; upper parts reddish chestnut ; wings rufous tipped with black ; tail like the head ; under parts dull buffish yellow. The shafts of the feathers of the head and under parts very stiff and glossy.

This "cuckoo" lays white eggs in a large domed nest of its own construction and carries out the work of incubation and rearing the young.

STRIGES.

217. **Barn Owl.** *Strix alba alba* Scopoli.

Aluco flammea. Shelley, p. 176.

Abundant and resident from the Mediterranean coast to Nubia, where it is replaced by a nearly allied form, which is darker and more thickly spotted on the under parts. We have a specimen from Giza which resembles the southern form, *S. a. maculata*, but this may be an aberration.

Length 14 inches. Upper parts amber brown vermiculated with black and spotted with white. A white frill round each eye edged with brown ; under parts pure white in adult males, washed with buff, and spotted with black in females and young birds.

218. **Short-eared Owl.** *Asio accipitrinus* (Pallas).

Asio accipitrinus. Shelley, p. 179.

Common during the spring migration, but less so in autumn.

Length 14 inches. Entire plumage yellowish buff mottled above and streaked below with black and grey; under side of wings white; a short tuft of feathers—erectile—on each side of head above the eyes.

219. **Long-eared Owl.** *Asio otus* (Linnæus).

Asio otus. Shelley, pp. 178-179.

Of uncommon occurrence during the autumn migrations.

Somewhat similar to the aforementioned, but darker in coloration and more heavily marked with black and grey. The “ear” tufts are longer, and during the day it roosts in trees and not on the ground, as does the short-eared owl.

The tawny owl, *Syrnium aluco*, has been recorded from Egypt, and I believe that I have seen and heard it at Giza, but as I have no specimen I only include it here in a footnote.

220. **Tengmalm’s Owl.** *Nyctala tengmalmi* (J. F. Gmelin).

Nyctala tengmalmi. Shelley, p. 177.

Shelley records one specimen from Egypt, now in the British Museum, from Mr. Turnbull’s collection.

Length 9 inches. Somewhat similar to the little owl, but greyer. Facial dish white. The legs and toes are thickly covered with whitish brown speckled feathers.

221. **Scop’s Owl.** *Otus scops scops* (Linnæus.)

Scops giu. Shelley, p. 178.

Fairly abundant during the spring migration.

Length $7\frac{1}{2}$ inches. *Two distinct ear-like tufts on head*, grey blotched and vermiculated with black. Some examples have distinct reddish brown patches on upper parts. Legs feathered, but feet bare.

222. **Southern Little Owl.** *Athene noctua glaux* (Scopoli).

Carine meridionalis. Shelley, p. 177.

Abundant and resident.

Length 9 inches. Upper parts greyish brown with large dull cream coloured spots; under parts dull white blotched and streaked with brown; toes covered with hairlike bristles.

223. **Egyptian Eagle Owl.** *Bubo ascalaphus ascalaphus* Savigny.

Bubo ascalaphus. Shelley, p. 180.

Not uncommon in suitable desert localities, where it is resident.

Length about 20 inches. Females larger than males. Two distinct ear-like tufts on head; legs and toes covered with golden brown feathers; upper parts dull golden buff heavily marked with black and less heavily with dull white blotches. Facial disk dull yellowish brown; under parts whitish buff, heavily streaked on breast with black; abdomen narrowly barred with reddish brown. Iris bright golden orange.

224. **Desert Eagle Owl.** *Bubo ascalaphus desertorum* Erlanger, 1897.

The status and range of this race is not yet fully worked out. In Egypt it meets and possibly interbreeds with the former race, from which it only differs in being paler in coloration; more marked with white on the upper parts and less heavily marked with black both above and below.

According to Von Heuglin, "Orn. N. O. Afr.," p. 110, *Bubo ignavus*, the eagle owl has been obtained near Cairo. Supposing this record to be correct, it seems most probable that the specimen in question belonged to one of the southern or south-eastern forms and not to the true *Bubo ignavus*.

ACCIPITRES.

225. **Rueppell's Vulture.** *Gyps rueppelli* (Brehm).

Not mentioned by Shelley.

Of apparently uncommon occurrence near Cairo. Two specimens obtained from Gîza Province are living in the Gîza Zoological Gardens.

Length about 42 inches. Head and neck covered with short whitey grey down, rest of plumage slate grey spotted with large white markings, especially so on the wings and shoulders. Sexes similar.

226. Griffon Vulture. *Gyps fulvus* (Gmelin).

Gyps fulvus. Shelley, p. 210.

Not uncommon throughout Egypt, but probably less numerous than it formerly was (a state which exists in regard to all the vultures known from Egypt).

Length about 42 inches. Head and neck covered with short dull white down, rest of plumage dull brown; flight feathers black.

227. "Black Vulture." *Vultur monachus* Linnæus.

Vultur monachus. Shelley, p. 209.

Not common. Ranges throughout Egypt.

Length about 45 inches. Head and neck covered with soft brownish down; a ruff at the base of the neck. Rest of plumage very dark brown. When seen at a distance this vulture appears quite black, hence, no doubt, its trivial name. Sexes similar.

228. Sociable Vulture. *Vultur auricularis* Daudin.

Vultur auricularis. Shelley, p. 209.

Possibly the commonest of the larger vultures in Egypt. It ranges from the Delta to "Nubia," where Von Heuglin found it plentiful. In the "southern provinces of Egypt" the same author found it to be not uncommon, and although he never found it in Lower Egypt, several examples, said to have been caught in the Giza Province, have passed through our hands.

Length about 45 inches. Head thinly covered with short dirty white down. Neck naked, the skin wrinkled. At back of neck a partial collar of stiff feathers. *Ear orifice very noticeable.* Rest of plumage brown, paler on under parts. Sexes similar.

229. Egyptian Vulture. *Neophron percnopterus* (Linnæus).

Neophron percnopterus. Shelley, p. 211.

This, the smallest of the Egyptian vultures, is also the most abundant, although there are clear indications that it is not as common as it used to be.

Length about 26 inches. Face and throat bare and bright yellow. Flight feathers black, rest of plumage creamy white with a yellowish stained like patch on each shoulder. Sexes alike. Immature birds are dark chocolate brown all over and the adult plumage is not assumed until the bird is three years of age.

230. Bearded Vulture. *Gypætus barbatus* subsp.?

Gypætus nudipes, Brehm. Shelley, p. 208.

The bearded vulture has been recorded on several occasions from Egypt. It possibly breeds in the Moqattam hills or near Helwân. I have several times seen single individuals near Helwân. Dring 1916 several examples were shot between Cairo and Suez and their dried heads sent to me for identification.

Length about 42 inches. A black beard-like tuft of feathers on the chin; head chiefly white, eyelids crimson; upper parts blackish brown narrowly streaked with white; under parts sandy orange. Young birds lack the white head, and the under parts are brown. Tail blackish brown, long and wedge-shaped.

231. Marsh Harrier. *Circus æruginosus* (Linnæus).

Circus æruginosus. Shelley, p. 181.

Common and probably resident in Lower Egypt; less abundant in Upper and Middle Egypt, with the exception of the Faiyûm.

Length about 20 inches. Adult male, crown and nape creamy buff streaked with dark brown; mantle brown; primaries blackish, rest of wings and tail silvery grey; under parts buff striped with brown on breast and chestnut on abdomen and thighs. Females and young birds are uniform chocolate brown with a creamy buff patch on the head. In subsequent moults the plumage varies, and cream-coloured patches appear on the shoulders.

232. Hen Harrier. *Circus cyaneus* (Linnæus).

Circus cyaneus. Shelley, p. 182.

Probably a winter visitor only. Common from autumn to spring in suitable localities.

Length 19 inches. The adult male is pale grey above; rump white; throat and upper breast pale grey; rest of under parts pure white; tail feathers barred with dusky black. Females are brown above and buff below with darker stripes. Rump white marked with rufous; tail barred with brown. Young birds resemble the female, but are browner and more rufous below.

233. Montagu's Harrier. *Circus pygargus* (Linnæus).

Circus cineraceus. Shelley, p. 184.

As far as is known, this harrier is a winter visitor to Egypt, a few remaining until the middle of April. It is not common, but is frequently confused with the pallid harrier.

Length 18 inches. The adult male is pale slate grey above, with a black bar on the secondaries. Throat and breast ash grey; rest of under parts white streaked with rufous. Central tail feathers grey, the rest barred with dark brown. Females are brown above and buff streaked with brown below. Young birds are similar, but uniform reddish buff below. Distinguished at all ages from the pallid harrier by the notch on the first primary being one inch beyond the primary coverts. In the pallid harrier the notch is level with the primary coverts.

234. Pallid Harrier. *Circus macrurus* (S. G. Gmelin).

Circus pallidus. Shelley, p. 183.

Common, and possibly some individuals are resident, though in some winters it is more abundant than in others.

Length about 19 inches. Upper parts pale grey; under parts pure white; upper tail coverts white barred with grey; central tail feathers pale grey, the rest barred with blackish grey; legs, cere and irides yellow. Adult males in autumn have the throat and upper breast washed with grey. Female brown above, the feathers edged with paler brown. Upper tail coverts white barred with brown; tail barred with dark brown; inner webs of flight feathers mottled and barred with brown. Young birds are only distinguishable from those of Montagu's harrier by the notch on the first primary being equal to and *never* beyond the primary coverts.

235. Buzzard. *Buteo buteo buteo* (Linnæus).

Buteo vulgaris. Shelley, p. 200.

Probably of very rare occurrence in Egypt. It is recorded by Shelley and also by J. H. Gurney, "Rambles of a Naturalist," page 142.

Length about 17 inches. Upper parts brown with lighter edges to the feathers, and mottled on head and neck with white; tail barred; under parts whitish mottled with brown. The plumage of this buzzard varies considerably and apparently irrespective of sex.

236. **Desert Buzzard.** *Buteo buteo rufiventer* (Jerdon).

Buteo desertorum. Shelley, p. 201.

Common and resident in suitable localities. As its trivial name implies, it is partial to the desert, but is frequently met with in the cultivation also.

Slightly smaller than the common buzzard and more rufous in colouration.

237. **North African Long-legged Buzzard.** *Buteo ferox cirtensis* Levaillant.

Resident, breeds.

Smaller than the following buzzard though similar in coloration.

238. **Long-legged Buzzard.** *Buteo ferox ferox* (S. G. Gmelin).

Buteo ferox. Shelley, p. 201.

A few in winter.

Length about 25 inches. Top of head whitish buff streaked with brown; rest of upper parts cinnamon brown mottled with dark brown; under parts creamy brown streaked with darker brown; tail rufous red, only slightly and faintly barred, sometimes without bars in old birds. In really old birds the head and neck become almost white and the tail rufous white. Black and almost white examples occur.

239. **Rough-legged Buzzard.** *Buteo lagopus* (Brünnich).

Not mentioned by Shelley.

Not uncommon during the autumn migration and again in spring.

Length about 25 inches. Head and neck whitish streaked with brown; mantle dark brown; basal half of tail white with a broad subterminal bar of brown and some narrow dark bars on a mottled ground colour; under parts buffish barred with rufous brown; front and sides of legs feathered to the toes.

240. **Spotted Eagle.** *Aquila maculata* (Gmelin).

Aquila nævia. Shelley, p. 206.

Not uncommon from autumn to spring. Some possibly nest in Egypt, as I have seen examples as late as May in Lower Egypt.

Length about 20 inches. General colour coffee brown. Young birds are deeper brown with pale edges and whitish spots to the feathers of the upper parts, and ochreous streaks on the under parts.

241. Imperial Eagle. *Aquila imperialis* Bechstein.

Aquila imperialis. Shelley, p. 205.

Not uncommon from autumn to spring in Lower Egypt.

Length about 28 inches. The adult has the crown, nape, and abdomen rufous; rest of the plumage dark brown. The scapulars, however, are nearly entirely white; tail greyer with irregular black bars. Young birds are lighter brown and are streaked with rufous above and below, and lack the white scapulars.

242. Golden Eagle. *Aquila chrysaetus* (Linnæus).

Aquila fulva. Shelley, p. 204.

This species has been recorded by Von Heuglin as an occasional and irregular visitor. The only examples which have so far come under my notice, however, were three shot on the desert east of Helwân in 1916. The first, an adult, obtained by Mr. C. R. Haswell, and a pair shot in the same locality a short time afterwards by His Highness Prince Kamal el Din Pasha, who most generously presented them to the Giza Zoological Museum.

Length about 30 inches. General colour dark brown; nape tawny brown; tail mottled with dark grey; legs feathered to the toes. Young birds have the basal half of the tail white.

243. Booted Eagle. *Aquila pennatus* (Gmelin).

Aquila pennata. Shelley, p. 207.

A not uncommon visitor from September to March. Shelley states that it arrives in March to breed and leaves in September, but I have no records of its nesting in this country.

Length about 20 inches. Upper parts dark brown, most of the feathers being edged with lighter brown; under parts white streaked with light brown.

244. Short-toed Eagle. *Circæus gallicus* (Gmelin).

Circæus gallicus. Shelley, p. 202.

Not uncommon and resident. A few pairs nest in the western desert and also probably on the eastern side of the Nile.

Length about 28 inches. Upper parts brown with slightly paler edges to the feathers ; lower parts white streaked with pale brown ; tail tipped with white and crossed with three indistinct bars of dusky brown ; legs yellow and bare ; irides yellow ; eyes large and owl-like.

245. **Bonelli's Eagle.** *Nisætus fasciatus* (Vieillot).

Not mentioned by Shelley.

Nisætus fasciatus. Gurney, "Rambles of a Naturalist," page 131.

Not uncommon during the autumn and early winter.

Length about 28 inches. Upper parts very dark brown, the bases of the feathers whitish ; under parts white streaked with dark brown ; *thighs barred with brown* ; legs feathered to the feet.

246. **White-tailed Eagle.** *Haliæetus albicilla* (Linnæus).

Haliæetus albicilla. Shelley, p. 204.

Von Heuglin's statement that this eagle is a resident in Lower Egypt requires confirmation. It certainly occurs there, but is uncommon, and I have no records of its nesting in Egypt at all. Howard Saunders states ("Manual of British Birds," 2nd ed., p. 330) that the eggs of this species are laid "by December or January in Egypt." It is possible that this fine eagle was, at one time, more common in Egypt than it is at present.

Length about 33 inches. Very old birds have the head and neck nearly white, but these parts are, in younger birds, light greyish brown, as is the rest of the body plumage. Wing feathers nearly black ; tail wedge-shaped and pure white in the adult. This eagle is subject to varieties, and is said not to attain its full plumage until the fifth or sixth year.

247. **Goshawk.** *Astur palumbarius* (Linnæus).

Astur palumbarius. Shelley, p. 185.

The goshawk is uncommon in Egypt, and is probably only an occasional wanderer to this country. Shelley records it from near Beni Suef, and I have seen it in the Faîyûm and near Gîza.

Length about 25 inches. Upper parts ash brown ; tail barred with four bands of dark brownish black ; under parts white, thickly barred with black. Young birds have the under parts buffish with drop-shaped markings, and the tail crossed with five dark bands. In general appearance the goshawk resembles a very large sparrow hawk, but lacks the bluish back of adults of the latter species.

248. Levant Sparrow Hawk. *Astur brevipes* Severtzoff.

Not mentioned by Shelley.

Of uncommon occurrence in Lower Egypt during the winter months.

Much resembles the sparrow hawk, but can at once be distinguished by the short middle toe, the claw only of which extends beyond the other two, whereas in the sparrow hawk the last *joint* of the middle toe projects beyond the tips of the claws of the outer and inner toes. In its immature plumage this species has a black streak down the centre of the chin and throat which the sparrow hawk never has.

249. Sparrow Hawk. *Accipiter nisus* (Linnæus).

Accipiter nisus. Shelley, p. 185.

Abundant in suitable localities from August to March.

Length about 15 to 18 inches, depending on the sex, males being smaller than females. Upper parts slate blue, the feathers of the nape and the scapulars having white bases; below creamy white streaked on the throat and barred on the breast and abdomen with rufous brown; tail barred with black. Young birds are brown above, and the under parts are browner and often blotched with brown on the breast. Egyptian examples have longer tails and often longer wings than have examples of the typical European form.

250. Black Kite. *Milvus migrans* (Boddært).

Milvus migrans. Shelley, p. 197.

Of rare occurrence in Egypt and often confused with the Egyptian yellow-billed kite, which, in immature plumage and when in poor condition, has a black instead of a yellow bill.

Length 24 inches. Crown pale rufous white streaked with black; upper parts dark brown; tail more rufous and barred with black; under parts rufous brown; bill *black*.

251. Egyptian Yellow-billed Kite. *Milvus ægyptius* Gmelin.

Milvus ægyptius. Shelley, p. 196.

Abundant and resident in many parts of Egypt, though its distribution, like that of the grey crow, is peculiar. Except as a straggler it is unknown at Alexandria, Suez, and Port Said. It is common in the Faiyûm, though a wanderer only in the Wadi Natrun. A nearly allied form is resident in the Sudan.

Length about 25 inches. Similar to the black kite in plumage, but the general tone is rather more red. Bill in adults waxy yellow. Young birds are more umber brown and are mottled with white and have black bills, as also do adults when in poor condition. An adult with a black bill is usually swarming with feather lice. The yellow bill is assumed by birds in their first year, provided they are in good health.

252. **Red Kite.** *Milvus milvus* (Linnæus).

Milvus regalis. Shelley, p. 195.

A rare straggler to Egypt.

Length 25 inches. General plumage more red than that of the Egyptian kite. Head and neck white striped with black; tail deeply forked. A distinct white and a black patch on under side of wing. This is most noticeable when the bird is in flight.

253. **Black-shouldered Kite.** *Elanus cæruleus* (Desfontein).

Elanus cæruleus. Shelley, p. 198.

Generally distributed and resident throughout the cultivated parts of Egypt, but owing to its crepuscular habits it is not very noticeable.

Length about 13 inches. Upper parts clear pale grey; under parts white; shoulders *black*; legs yellow; irides bright carmine. The young are duller and browner, and the under parts are streaked with brown. In flight this species differs from the true kites. It hovers over its prey like a kestrel and its movements are more like those of a harrier.

254. **Honey Buzzard.** *Pernis apivorus* (Linnæus).

Pernis apivorus. Shelley, p. 199.

A visitor, in small numbers, during the spring and autumn migrations.

Length about 23 inches. Head ashy grey; upper parts dark blackish brown; tail banded with three or four bars; under parts white, spotted on the breast and barred on the chest, flanks, and abdomen with brown. The feathers of the lores and round the eyes are thickly set and almost scale-like, acting as armour against the stings of wasps, on the larvæ of which this species feeds. Females and young are browner and lack the grey head.

255. Peregrine Falcon. *Falco peregrinus peregrinus* Tunstall.

Falco peregrinus. Shelley, p. 186.

Common from autumn to spring. I have no records of its nesting in the country.

Length about 19 inches. Bluish slate grey above, slightly spotted with black; crown of head darker, rump lighter; tail banded with grey; under parts creamy buff, streaked on the throat and barred on the breast, abdomen, flanks, and thighs with dull black. A well-marked wide beard-like patch of black on each side of the chin. Young birds are duller and browner in colouration.

256. Eastern Peregrine Falcon. *Falco peregrinus calidus* Latham.

Not mentioned by Shelley.

Falco peregrinus calidus Lath. Hartert, "Vg. d. Pal." F., p. 1046.

As far as is known at present, this falcon is a winter visitor to Egypt.

It differs from the typical Peregrine in having the "beard" narrower and more pointed. Females of the true falcons are larger than the males.

257. Lanner Falcon. *Falco biarmicus tanypterus.*

Falco lanarius. Shelley, p. 188.

Abundant and resident. Examples which breed annually on the Gîza pyramids are well known to all egg collectors who visit Egypt, and many clutches of "peregrine falcons'" eggs, in private collections, taken from these pyramids no doubt "do duty" for "peregrines," which they certainly are not.

Length about 19 inches. Crown *creamy rufous*; upper parts grey brown, the feathers slightly edged with buff; under parts dull buffish white marked with black.

258. Sacer Falcon. *Falco cherrug* Gray.

Falco sacer. Shelley, p. 190.

Not uncommon in Lower, Middle, and Upper Egypt during the autumn and winter months.

Length about 24 inches. Plumage very similar to that of the lanner falcon, but rather darker on the upper parts. The inner webs of the primaries are whiter and not so mottled as are those of the lanner. The top of head is not clear rufous buff as in the lanner, but whitish, heavily streaked with blackish brown. The female is larger than the male, which is usually the case with all falcons.

259. "Barbary" Falcon. *Falco pelegrinoides* Temminck.

Falco babylonicus. Shelley, p. 189.

Not uncommon, and probably resident in Lower, Middle, and Upper Egypt. It breeds on the Pyramid of Dahshûr, Middle Egypt.

Length about $17\frac{1}{2}$ inches. Nape of neck marked with rufous; upper parts slate grey; under parts rufous buff spotted and barred with black. Chin, throat, and upper breast usually unspotted in the adult. *Much resembles a very small peregrine, but has rufous on the nape.*

260. Hobby Falcon. *Falco subbuteo* Linnæus.

Falco subbuteo. Shelley, p. 192.

Fairly abundant in spring and early autumn.

Length about 13 inches. Forehead creamy buff; upper parts dark slate colour, with a buffish patch on nape; thighs rufous buff; moustachial stripe and ear coverts black; rest of under parts creamy rufous striped with black; inner web of flight feathers mottled with rufous buff.

261. Merlin Falcon. *Falco æsalon* Tunstall.

Falco æsalon. Shelley, p. 191.

A very abundant winter visitor in Lower Egypt and less so in Upper and Middle Egypt.

Length about 11 inches. Upper parts bluish grey, each feather having a darker centre; a collar of rufous feathers on nape of neck; under parts white and rufous white streaked and spotted with brown; tail barred with dusky black bars, the end tipped with white.

262. Red-legged Falcon. *Falco vespertinus vespertinus* Linnæus.

Falco vespertinus. Shelley, p. 193.

Passes through Egypt in considerable numbers during both migrations.

Length about 11 inches. Entire plumage of the male slate grey, with abdomen, thighs, and under-tail coverts rust red. Females and young birds lack the grey plumage and are browner above, rufous buff below, streaked with dusky.

263. Sooty Falcon. *Falco concolor* Temminck.

Falco concolor. Shelley, p. 192.

A resident, in small numbers in Lower and Upper Egypt.

Length 14 inches. Entire plumage pale slate grey; lighter on the upper parts; cere and legs yellow; bill dull bluish; iris brown. Sexes alike.

264. **Egyptian Kestrel.** *Falco tinnunculus rupicolæformis* Brehm.

Falco tinnunculus. Shelley, p. 194.

Very abundant throughout Egypt to at least as far south as Luxor, and resident.

Length about 13 inches. Similar to the common European kestrel, but darker in coloration and smaller in size. Crown and nape dull bluish; upper parts chestnut brown spotted with black; wing quills blackish, marbled with white and rufous; tail blue grey with a black terminal band; under parts buff spotted with black; thighs reddish buff.

Females and young birds are more heavily spotted above and lack the blue head and tail, though old females have a blue-grey rump.

265. **Kestrel.** *Falco tinnunculus* subsp. ?

Another form of kestrel—larger and paler than the resident species—passes through the country. Up to the present time this form has not been named and its breeding quarters are unknown.

266. **Lesser Kestrel.** *Falco naumanni naumanni* Fleischer.

Falco cenchris. Shelley, p. 195.

A few during the spring migration, and Shelley states that it is abundant in autumn. Von Heuglin has stated that it breeds at Alexandria, but this I am unable to confirm.

Similar to the resident Egyptian Kestrel, but the upper parts of the adult male are unspotted, and the innermost secondaries are slate grey. The claws of both sexes are usually paler than those of the kestrel and are sometimes white. The female resembles the Egyptian kestrel, but is somewhat smaller and paler.

267. **Eastern Lesser Kestrel.** *Falco naumanni pekinensis* (Swinhoe).

Very abundant during spring migration.

Similar to the aforementioned but slightly darker above; the smaller wing coverts moreover are slate blue edged with red and not wholly red.

268. **Osprey.** *Pandion haliaëtus haliaëtus* (Linnæus).

Pandion haliaëtus. Shelley, p. 203.

Not uncommon, and breeds on the coasts and islands of the Red Sea.

Length about 22 inches. Head and nape white streaked with brown; upper parts dark brown with a purplish gloss; under parts white, with a band of brown spots round the fore-neck; cere, legs, and toes greenish blue.

Young birds have the feathers of the upper parts edged with buff.

STEGANOPODES.

269. **Cormorant.** *Phalacrocorax carbo* (Linnæus).

Phalacrocorax carbo. Shelley, p. 295.

Cormorants are to be met with in suitable localities from autumn to spring. Possibly a few breed in the country, but we have no positive record.

Length about 36 inches. Entire plumage glossy blackish green; throat white. In the breeding season the sides of the head and the thighs are decorated with short white plume-like feathers. Young birds are brown above and more or less white below.

Examples from this country vary somewhat considerably in size, and two races may occur.

270. **Little Cormorant.** *Phalacrocorax pygmæus* Temminck.

Phalacrocorax pygmæus. Shelley, p. 295.

Shelley found this cormorant in the Faiyûm, where, on Lake Karûn, it was not uncommon. Gurney met with it in the same place in June, so it probably does, or did, breed there.

Length about 23 inches. Upper parts black with a greenish gloss; sides of neck brownish and "wing coverts almost grey, with the ends of the feathers black, narrowly edged with white; under parts white shaded with brown on the neck and crop; flanks and under-tail coverts black; legs black" (Shelley).

271. **Long-tailed Cormorant.** *Phalacrocorax africanus* Gmelin.

Not mentioned by Shelley.

Graculus africanus. Gurney, "Rambles of a Naturalist," page 240.

Gurney found this cormorant abundant on the Faiyûm lake in 1875, where, in June, he found a few sitting on empty nests, but he was unable to find out if they were breeding or about to breed.

Length about 23 inches. Tail long and stiff; under parts whitish in winter, black like the upper parts when in breeding plumage.

272. **White Pelican.** *Pelecanus onocrotalus* Linnæus.

Pelecanus onocrotalus. Shelley, p. 293.

Numerous in Lower Egypt, in suitable localities, during both migrations, and many winter on the lakes in Northern Egypt and also in the Faiyûm, on Lake Karûn, while its migrations extend to Nubia. It is very doubtful if this bird ever breeds in Egypt at the present time, though it may formerly have done so.

Length 60 inches (Shelley). Adult, primary feathers black, rest of plumage white washed with roseate. Some of the feathers on the neck are yellowish. In breeding plumage the head is crested with long plumes, giving a mop-like appearance, and in the male the forehead is much swollen, as is the bare skin round the eye in both sexes. Bill yellow mottled with blue and salmon pink; pouch and feet yellow. Immature plumage brown. In the Gîza Zoological Gardens captive pelicans often catch and swallow wild shoveller and teal duck.

Pelecanus minor (Rüppell). Shelley (p. 294) and Gurney (p. 238) probably refer to small examples of *P. onocrotalus*, females of the latter being usually much smaller and often much paler than the males, and they also lack the frontal knob in the breeding season.

273. **Grey Pelican.** *Pelecanus rufescens* Gmelin.

Not mentioned by Shelley.

A few stray into Upper Egypt, and one now living in the Gîza Zoological Gardens was caught in the Bitter Lakes, Suez Canal, though this example may have been an escape from a passing ship.

Length about 50 inches. Upper parts grey; rump washed with rosy pink; under parts greyish white. In breeding plumage a long mop-like crest is assumed.

274. **Dalmatian Pelican.** *Pelecanus crispus* Bruch.

Pelecanus crispus. Shelley, p. 293.

Shelley found this pelican abundant on the Nile and in the Faiyûm. Gurney found a dead example at Damietta and

saw skins which had been collected in Upper Egypt. I have seen examples in the Faiyûm in March and also on Lake Manzala in January.

Length about 70 inches. Feathers on the forehead terminating in a concave line towards middle of culmen ; primaries dark brown ; upper part of back scapulars and wing coverts stone grey ; tail brownish grey ; legs and pouch flesh colour. Rest of plumage white.

275. Booby. *Sula leucogastra.* (Boddaert),

Not mentioned by Shelley.

This brown and white gannet was met with at Jubal Island in the Red Sea, not far from Suez, by Captain Flower and Mr. Bonhote in January 1919.

Length about 35 inches. Head, neck, upper breast, and upper parts deep chocolate brown ; lower breast and belly white.

276. Masked Gannet. *Sula cyanops* Sundevall.

Sula cyanops. Shelley, p. 294.

Mr. E. C. Taylor met with this gannet near Suez (*cf.* Shelley, p. 294).

Length about 36 inches. Bare skin of face and pouch slate grey ; quills and greater wing coverts and tail dark brown ; rest of plumage white ; bill yellow ; legs slaty grey.

277. Bo'sun Bird. *Phaëthon indicus* Hume.

Not mentioned by Shelley.

In the Gîza Museum there is a head of a bird of this species which was picked up on Jubal Island, near Suez, in January 1919, by Mr. J. L. Bonhote. It is possibly not uncommon, for I have heard of a *Phaëthon* flying on board a ship near Suez, and which was probably of this species.

Length about 24 inches. White flecked with black on upper parts, pure silvery white below. A crescent-shaped black mark on eyelid, and a small black line behind the eye. Bill coral red ; cutting edges black. Tail streamers white.

HERODIONES.

278. Grey Heron. *Ardea cinerea* Linnæus.

Ardea cinerea. Shelley, p. 266.

Abundant in suitable localities from autumn to spring. A few remain to breed in Lower Egypt (Gîza) and a few possibly breed in the Faiyûm, where I have seen birds at the end of March. Some also breed on the coasts and islands of the Red Sea.

Length about 40 inches. Adult male slate grey above, with paler grey dorsal plumes. Forehead, crown, and cheeks white; plumes of crest blue black; neck whitish, streaked down the front with dull blackish grey, at base of neck a tuft of white plumes; under parts white or greyish white. The young birds are duller in colour and lack the white forehead and crown and have no crest or plumes. The adult plumage is sometimes, if not always, assumed during the first year. The members of this family have powdery tufts of decomposed feathers on the breast and lower flanks; the use of these is unknown.

279. Purple Heron. *Ardea purpurea* Linnæus.

Ardea purpurea. Shelley, p. 266.

Passes through Egypt in large numbers during the spring and autumn, when it frequents reed beds in marshy places. It sometimes perches on trees. Possibly a few pairs nest in suitable localities, though there are no positive records. I have seen it once in winter, *i.e.* January 31, 1919, at Inshâs.

Length about 32 inches. Upper parts dark slate grey. The plumes of the head purplish black, those on the back chestnut; neck reddish buff, streaked on the sides with black, at the base a tuft of grey, chestnut and black feathers; breast and abdomen rufous red; under wing coverts chestnut. The young birds have no plumes and are lighter and less richly coloured.

280. Great White Heron. *Ardea alba* Linnæus.

Herodias alba. Shelley, p. 267.

During the winter months this large heron is common on the lakes of Lower Egypt, and Shelley met with it in the Faiyûm. One was seen on June 3 and 5, 1904, in the Gîza Zoological Gardens, and on July 29, 1911, I saw a flock of sixteen flying over the same place.

Length about 36 inches. Entire plumage white. In the spring the long dorsal "aigrette" plumes are assumed, but these are lacking in winter. Iris yellow; legs and feet blackish.

281. Little Egret. *Ardea garzetta* Linnæus.

Herodias garzetta. Shelley, p. 268.

Resident in Lower and in Upper Egypt, where it nests in company with the buff-backed egret. After the breeding season this egret seems to be subject to local migrations.

Length about 21 inches. Entire plumage pure white. In the breeding season a dorsal train of "aigrette" plumes, pure white in colour, is assumed. Bill black; legs black; the feet chrome yellow.

282. Buff-backed Egret. *Ardea ibis* Linnæus. Plate 31, figs. 25, 26.

Ardeola russata. Shelley, p. 268.

Though once extremely abundant in Egypt this handsome resident egret became all but exterminated in the country by plume hunters, and in 1912, when a law was passed for its protection, but two breeding colonies existed, one in Lower and one in Upper Egypt. These two colonies have since then been in the charge of the Zoological Service, and are guarded by watchmen. The birds are now appearing in parts of the country where they have not been seen for many years. It should be stated that the destruction of these birds, for the sake of their plumes, was carried out by Europeans, and not by the natives. The latter apparently realize the good these birds do in destroying insect pests, for the food of the buff-backed egret consists almost entirely of insects.

This bird nests in colonies in trees close to and often in villages, though in the Faiyûm they used to nest in the tamarisk bushes on the desert edge of the lake.

Length about 20 inches. In winter the entire plumage is white, tinged on the heads of adult birds with pale rufous orange. In the breeding season only a large dorsal tuft of rufous orange "aigrettes" is assumed, and the head bears a crest of hair-like feathers of the same colour. In the breeding season the bill is orange red, the legs and feet deep orange red. The colour of the bill can apparently be changed at will by the breeding bird to pale yellow. In the winter plumage the bill is pale yellowish orange and the legs black. Immature birds have slaty black bills and legs, but the bill soon changes to pale yellow.

283. Squacco Heron. *Ardea ralloides* Scopoli.

Ardeola comata. Shelley, p. 269.

Shelley says that this bird is a resident in Egypt, and Gurney shot one at Damietta in January. During the past twelve years, however, I have only once met with it in winter, and consider it to be a migrant commonest during the spring passage. It is probable that a few nest on the lakes in Northern Egypt, and Gurney has stated that some he saw in June in the Faiyûm were probably going to breed there.

Length about 20 inches. Back vinaceous brown; dorsal plumes filamentous; head and neck pale buff; several long plumes on the back of the head, white bordered with black; wing coverts buff; rest of plumage pure white, somewhat washed on the under parts with pale yellow. The young bird is duller and lacks the plumes.

284. Reef Heron. *Demigretta gularis* Bosc.

Not mentioned by Shelley.

Several were seen on the islands in the Red Sea in January 1919 by Captain S. S. Flower and Mr. J. L. Bonhote; all these were of the white phase of plumage.

Length about 24 inches. White phase, pure white all over, bill yellow.

Blue phase, slaty blue grey, rather darker on upper parts; chin pure white.

285. Night Heron. *Nycticorax griseus* (Linnæus).

Nycticorax griseus. Shelley, p. 270.

Abundant during the autumn, winter and early spring in suitable localities. A few remain throughout the summer, chiefly immature examples, and although I am informed that it has formerly bred at Luxor, the first nests I met with were in July 1914 in the Gîza Zoological Gardens, where three pairs reared young. In the same place this bird bred in 1915 and 1916 in increasing numbers, and now, 1919, many nests are to be seen in the banyan trees in these gardens.

Length about 23 inches. Adult, back bluish black, as is also the crown and nape; neck, wings, and tail grey; under parts creamy white. On the nape from three to ten long white plumes. Iris red; legs and feet dull yellow. The full plumage is not assumed until the third spring. Young birds are brown, profusely spotted with white above and striped with white and buff below.

286. Little Bittern. *Ardetta minuta* (Linnæus).

Botaurus minutus. Shelley, p. 271.

Abundant and resident in reed beds in Lower Egypt and the Faiyûm; its numbers are augmented by migrants from the south in spring.

Length about 12 inches. Adult male, top of head, nape, back, and tail bluish black; wing coverts sandy cream colour; rest of plumage creamy buff. The adult female and young birds lack the bluish black on the upper parts, this colour being replaced by dull reddish brown and buff.

287. Bittern. *Botaurus stellaris* (Linnæus).

Botaurus stellaris. Shelley, p. 271.

A few pass the winter in Lower Egypt, but it is chiefly a spring and autumn migrant in the country.

Length about 30 inches. Crown of head and nape black; a brown patch on sides of head; rest of plumage sandy brown mottled with black and brown, except the chin and throat, which are sometimes creamy white.

288. African Green Heron. *Butorides atricapilla* (Afzel).

One seen on Jubal Island in the Red Sea in January 1919 by Mr. J. L. Bonhote, who is so well acquainted with the American species that no mistake can have been made in the identification.

Length about 17 inches. Crown of head blackish; upper parts slate grey with whitish streaks on the plumes; lower parts smoke grey, slightly streaked on the fore neck with brown; wing coverts glossy green margined with whitish.

289. White Stork. *Ciconia alba* Bechstein.

Ciconia alba. Shelley, p. 265.

Great numbers pass through during the spring migration and a few remain throughout the summer, but these are non-breeding birds. The return passage in autumn is less noticeable, the majority of storks either passing high overhead out of sight or taking a different route. It is also sometimes seen in winter.

Length about 42 inches. Entire plumage white, with the exception of the quills, which are black frosted with grey; bill, legs, and feet red. Sexes alike.

290. Black Stork. *Ciconia nigra* (Linnæus).

Ciconia nigra. Shelley, p. 265.

Passes through Egypt on migration, and a certain number remain in Upper Egypt during the winter months.

Length about 40 inches. Head, neck, and upper parts black, glossed with green and purple; abdomen white; bill, eyes, pouch, legs, and feet coral red. The sexes are alike, and the young are of a duller coloration.

291. Open-billed Stork. *Anastomus lamelligerus* Temminck.

On July 1, 1919, Major Flower saw a wild example in the Gîza Zoological Gardens.

Length 28 inches. Upper parts black, slightly glossed with green and purple. Head, neck, and under parts black. Bill dusky with a whitish base. The two mandibles do not meet in the centre of their length.

292. Spoonbill. *Platalea leucorodia* Linnæus.

Platalea leucorodia. Shelley, p. 264.

Numbers pass through during both migrations, but some appear to stay during the summer, though there are no records of its having bred.

Length about 36 inches. The adult male in breeding plumage is white with a tinge of yellow on the head and fore neck. The large spatule-shaped bill is black barred with yellow and with a yellow tip; gular pouch orange. The female is slightly smaller, and the young are white with a flesh-coloured bill.

293. Glossy Ibis. *Plegadis falcinellus* (Linnæus).

Ibis falcinellus. Shelley, p. 262.

Large numbers pass through during the spring migration and many remain until the middle of June at least, though it has never been found breeding in the country.

Length about 22 inches. The adult has the head, neck, and lower parts deep copper red. Back, wings, and tail brownish black glossed with metallic green and purple. The young bird is not glossed, and the head and neck are mottled with greyish white. In general appearance, and when seen at a distance, this bird resembles a black curlew.

294. The Sacred Ibis. *Ibis æthiopica* (Latham).

Ibis æthiopica. Shelley, p. 261.

Though Von Heuglin, "Syst. Ueb." page 61, has recorded the sacred ibis as a breeding species at Wadi Halfa, there is no doubt that at the present day this bird is extinct in Egypt. Shelley's statement that "the food found in many of the mummied specimens consists of shells, insects, and reptiles now common in Egypt," proved that it once lived in the country is no proof that it occurred there in a wild state. It may have been imported from the Sudan. That it was venerated by the ancient Egyptians is certain, owing to the number of mummied ibises found, but many mummied ibises are the glossy ibis, so that it is possible that the two were confused, as in the case of the hawks. (Of the latter I have unrolled mummies of kestrels, red-footed falcons, and merlins.)

There seems little doubt that the sacred ibis occurred as late as 1800, in Lower Egypt, where Savigny saw it (Gurney, "Rambles of a Naturalist" p. 118). The latest record of this ibis from Egypt, however, is that given in a footnote in Gurney's "Rambles of a Naturalist" (p. 298), in which he states that "since the preceding pages went to press," that is in 1876, "M. Filliponi informed him that he had lately obtained a sacred ibis near Damietta and seen three others." A description of these birds sent to Mr. Gurney is accepted by the latter, and such a careful and cautious ornithologist would not have accepted this record unless he was convinced of its authenticity.

Length about 28 inches. In the adult the head and neck are covered with bare skin, which is black. The tips of the wing feathers are black, and the secondaries are plume-like and black with purple reflections, forming a plume over the tail which is black; rest of plumage white.

295. African Wood Ibis. *Tantalus ibis* Linnæus.

Tantalus ibis. Shelley, p. 262.

This wood ibis visits Upper Egypt occasionally from the south.

Length 34 inches. Face and pouch bare and scarlet; quills, wing coverts and tail black glossed with bronzy green; rest of plumage white suffused with pink, especially on and under the wings; bill yellow; legs and feet olive.

ODONTOGLOSSÆ.

296. **Flamingo.** *Phænicopterus roseus* (Pallas).

Phænicopterus antiquorum. Shelley, p. 272.

Abundant in suitable localities during the winter. The lakes of Northern Egypt are usually swarming with flamingoes, and there is no doubt that this species used to breed on Lakes Manzala and Mareotis. It is not uncommon in the Wadi Natrun and also visits the Faiyûm, but is rarely, if ever, to be seen on the Nile.

Length 50 to 60 inches, but the size is variable. Sexes alike in colour. Plumage rosy white, with scarlet wing coverts and axillaries. Primaries black. Bill pink at the base, tip black. Legs and feet pink. The young bird is white speckled with black, and the bill and legs are black.

ANSERES.

297. **White-fronted Goose.** *Anser albifrons* Scopoli.

Anser albifrons. Shelley, p. 280.

Common in winter in suitable localities, and more abundant than any other species of goose in Lower Egypt.

Length about 27 inches. Face white in front; upper parts brown; under parts brownish white broadly barred with black; bill orange, with a white nail at the tip; legs and feet yellow. Female smaller and less barred with black on the belly. Young birds are of an almost uniform brownish grey and lack the white face.

298. **Lesser White-fronted Goose.** *Anser erythropus* (Linnæus).

Not mentioned by Shelley.

This goose was obtained in Egypt by Mr. J. H. Gurney, who purchased an example killed at Damietta in January 1875. Subsequently, on January 30, 1907, H.H. Prince Kamal el Din Pasha presented a living adult example to the Giza Zoological Gardens. This bird was captured at Mansuriya, in the province of Giza. Von Heuglin states, "Orn. N.O. Africas," that this goose has been obtained in the Delta.

Length about 22 inches. In coloration it resembles the former species, except that the white patch on the face is larger and extends to above the eye.

299. **Red-breasted Goose.** *Branta ruficollis* (Pallas).

Not mentioned by Shelley.

On December 2, 1874, an example was obtained near Alexandria, and is figured in Gould's "Birds of Great Britain." This is the only record of this handsome goose from Egypt. That it had previously occurred in the country, however, is certain, for it is well represented in colours on the slab from Maidûm pyramid now in the Museum of Antiquities in Cairo.

Length about 22 inches. The adult has a white patch in front of the eye. Crown, throat, and hind neck, and lower part of breast black, bordered by narrow lines of white. Ear patches and breast rich chestnut; upper parts almost black, with greyish white edges to the wing coverts; tail black; belly white barred with black on the flanks; bill, legs, and feet very dark brown (Howard Saunders). The young bird has little or no red on the breast and is altogether greyer in the coloration of the upper parts.

300. **Brent Goose.** *Branta bernicla* (Linnæus).

Bernicla brenta. Shelley, p. 281.

Although it has been stated that small flocks of brent geese visit Lower Egypt during the winter, the first positive record I have of the occurrence of this species in Egypt was given to me by Captain P. Bahr, R.A.M.C., who saw two near the Aswân Dam on February 25, 1917. Finally, I saw a large flock on the Nile near Sanabu, in Upper Egypt, in February 1918.

Length about 22 inches. Head, throat, and neck black, with a small white patch on each side of the neck; back brownish black, with pale edges to the feathers; quills, rump, tail, and upper breast black; rest of under parts greyish white. The female is usually rather smaller, and the young are duller in colour.

301. **Egyptian Goose.** *Chenalopex ægyptiacus* (Linnæus).

Chenalopex ægyptiacus. Shelley, p. 279.

There is little doubt that this goose is far less abundant in Egypt now than it was fifty years ago, when Shelley described it as "very evenly distributed throughout Egypt." It is rare in Lower Egypt, but a good many breed in Upper Egypt.

Length about 26 inches. Upper throat and cheeks white; sides of neck, forehead, and round eye ferruginous brown; back brown; under parts brownish buff finely vermiculated with black; primaries and secondaries black, the latter glossed

outwardly with green; wing coverts white, forming a conspicuous white patch, bordered below with black; rump and tail black. A conspicuous chestnut patch in the centre of the chest. Sexes alike. The young are duller in colour and have less red in the plumage.

302. Shield Duck. *Tadorna cornuta* (S. G. Gmelin).

Tadorna vulpanser. Shelley, p. 281.

Not uncommon in Lower and Upper Egypt during the winter.

Length about 25 inches. Adult male, head and upper neck black glossed with green, separated from the chestnut band on the breast by a white collar; upper part of back chestnut; lower part white; scapulars, primaries, and tail black; wing coverts white; bill scarlet; legs and feet flesh colour. The female is duller and less boldly marked, and the young resemble the female.

303. Ruddy Shield Duck. *Tadorna casarca* (Linnæus).

Tadorna rutila. Shelley, p. 282.

Not uncommon during the winter and early spring. Usually met with in small flocks.

Length 25 inches. Head and chin buff; upper and under parts orange brown; wing coverts creamy white; flight feathers dark grey; a large bronze green wing spot; rump and tail lead colour. In the summer the male has a narrow black collar. The female is slightly smaller, has a paler head and never assumes the black collar.

[**Spur-winged Goose.** *Plectropterus rueppelli* Sclater.

This large black-and-white goose, which has a red casque, bare red patches on the neck, and armed with horn-like projections on the carpal joint, has been obtained in Egypt on a few occasions, but there is little doubt that these were all birds which had escaped from captivity.]

304. Mute Swan. *Cygnus olor* (Gmelin).

Cygnus olor. Shelley, p. 278.

An uncommon visitor during the winter in Lower Egypt.

Length about 60 inches. The adult is white, with black legs and feet; bill orange with a black nail. The swollen knob on the base of upper mandible is also black.

305. Whooper Swan. *Cygnus musicus* Bechstein.

Cygnus musicus. Shelley, p. 279.

Has been stated to come into Lower Egypt during the winter months, but is apparently of rarer occurrence than the mute swan.

Length about 60 inches. Plumage white; bill yellow with a black tip; no swollen knob at the base as in the mute swan.

306. The Mallard. *Anas boschas* Linnæus.

Anas boschas. Shelley, p. 283.

A regular winter visitor. In some years it is more abundant than in others, but never so common as the shoveler and teal. During the winter of 1916-1917 this duck occurred in comparatively great numbers.

Length about 24 inches. The adult male has the head and neck glossy green; hind neck and breast dark chestnut, separated from the green by a white band; a greenish purple wing patch bordered by white; rump and tail coverts bluish black; belly and flanks greyish.

Females are brown above and below mottled with black and buff, and the wing patch is dark green.

307. Gadwall. *Anas strepera* Linnæus.

Anas strepera. Shelley, p. 283.

Not uncommon during the winter months.

Length about 20 inches. The adult male has the head and neck greyish brown mottled with darker brown. Upper parts dark brown with crescent-shaped markings of grey; lower neck grey with lighter crescent-shaped edges to the feathers; breast and belly white. The wing speculum is chestnut, black and white.

The female much resembles that of the mallard, but is smaller and the wing speculum is white.

308. Marbled Duck. *Marmaronetta angustirostris* (Ménétries).

Not mentioned by Shelley.

The marbled duck appears to be a resident in certain parts of Egypt. It breeds in the Wadi Natrun and probably also in the Faiyûm, and, although apparently seldom obtained during the large duck shoots in the winter, it has been found in the Faiyûm, in large flocks in November. Possibly and, I think,

probably, it only frequents the above two mentioned places as a general rule, though I have seen single individuals near Bilbeis in April, and it is stated to have bred near Marg.

Length about 18 inches. Entire plumage pale whitey brown mottled on the upper parts with darker brown and spangled with whitish spots or "mirrors." Under parts finely streaked with dark brown. The male has a somewhat undeveloped crest. The wing quills are slightly glossed with pale lavender on the outer webs.

309. Shovelar. *Spatula clypeata* (Linnæus).

Rhynchaspis clypeata. Shelley, p. 285.

A very abundant visitor from October to March, and a few stay until even later.

Length about 20 inches. Head and upper neck glossy green; lower neck and scapulars white; centre of back dark brown with pale edges to the feathers; shoulders pale blue; greater wing coverts white; wing speculum green; primaries, rump, and tail black; under parts chestnut; flanks chestnut red.

The female is brown mottled with black. The bill of both sexes is long and spatule in shape. Some males do not assume full plumage until they are nearly a year old.

310. Teal. *Nettion crecca* (Linnæus).

Querquedula crecca. Shelley, p. 286.

Very abundant from September to March.

Length about 14½ inches. Male, crown, nape, cheeks, and throat dull chestnut; round and below eye a large patch of metallic green narrowly bordered with buff; upper parts vermiculated with black and white; wing speculum green and purple black tipped with buff; rump blackish; tail brown; chin black; throat and fore neck buff spotted with black, rest of under parts white, with finely vermiculated black-and-white flanks; under tail coverts black with a rufous buff border.

Some specimens have the white belly stained with rufous buff, and this is probably caused by a sojourn in a locality where the water is impregnated with chemicals.

Females and young birds lack the chestnut and green on the head. The wing patch is less brilliant, and the upper parts are mottled with dull black and brown, the under parts being more buff and grey than white. After the breeding season the male assumes a plumage somewhat similar to that of the female, and the first arrivals in this country usually consist of birds in this plumage or in process of transition.

311. Garganey. *Querquedula circia* (Linnæus).

Querquedula circia. Shelley, p. 287.

This teal arrives in July and August and passes southwards to reappear in March and April, when the males have assumed their full plumage. It does not remain to breed. Length about 15 inches. The adult male has a clear whitish stripe over each eye; crown and nape dark brown; cheeks and neck dull brick brown shot with very narrow white streaks; back dark brown. The scapulars are elongated and are striped with white, lavender and black; wing coverts *pale blue*; speculum of wing green, with white bars on each side; chin black; breast pale brown with crescent-shaped dark bands; belly white; flanks narrowly banded with dark bars and bounded by two black and broad bands. The female has no brick brown on head, and the wing coverts are paler blue. Young birds are like the female, but the wing coverts are a dull slate. The male in eclipse is somewhat similar to the adult female, but the wing coverts are of a brighter blue. At all times and in all ages the whitish buff eyestripes serve to distinguish this species from the teal.

312. Pintail. *Dafila acuta* (Linnæus).

Dafila acuta. Shelley, p. 284.

Very abundant. Arrives in September and remains till April.

Length about 30 inches. Male, head brown, nape green. A white stripe from behind the ear coverts to the breast, which, with the abdomen, is white. Back and flanks mottled and vermiculated with black and grey; speculum bronze green margined with black and white; tail black, the central tail feathers much elongated and very narrow; under tail coverts black. Females and young birds are mottled with brown above and have buffish white under parts.

313. Widgeon. *Mareca penelope* (Linnæus).

Mareca penelope. Shelley, p. 288.

Abundant during the winter months.

Length about 19 inches. Adult male, forehead and fore crown yellow; chin black; cheeks and sides of head and neck reddish brown minutely spotted with metallic blue; throat and rest of neck chestnut; breast white; lower belly grey; flanks vermiculated with grey. The shoulder is white, barred at

extremity with black. Wing patch green tipped below with black. Upper parts vermiculated with grey. The eclipse plumage of the drake somewhat resembles the sober brown and reddish mottling of the adult duck, but the whole of the head and upper parts are suffused with a rich chestnut. Bill lead blue.

314. Red-crested Pochard. *Netta rufina* (Pallas).

Not mentioned by Shelley.

Probably an annual visitor during the winter months to Lower and Upper Egypt, but in very much smaller numbers than the common pochard.

Length about 22 inches. The male in full plumage has the head and upper neck rich brick red with a yellowish wash on the sides. Middle and lower neck, breast, and abdomen black; flanks white tinged with salmon or rose pink (which quickly disappears after death); mantle yellowish brown; wing bar white tinged with rose pink; tail ashy brown; bill scarlet; legs and toes vermilion.

The female is brown above, with grey cheeks and buffish white under parts, and has no crest, which, in the male, is usually carried erected.

315. Pochard. *Fuligula ferina* (Linnæus).

Fuligula ferina. Shelley, p. 289.

Common during the winter months on the Nile and in suitable lakes and sheets of water.

Length about 20 inches. The adult male in full plumage has the head and neck red; breast and upper back black; mantle vermiculated with white and black; under parts greyish white; tail coverts black; iris red; bill black with a grey blue band across the middle; legs bluish grey.

The female has the head, neck, and breast dull brown; chin white; upper parts brownish grey.

316. Tufted Duck. *Fuligula cristata* (Leach).

Fuligula cristata. Shelley, p. 290.

Abundant in suitable localities throughout the winter, usually or often consorting with the pochard.

Length about 17 inches. Male, head, neck, and upper breast black glossed with bluish purple; a tuft-like crest on

back of head ; upper parts dull black ; wing patch white ; under parts white ; eye golden yellow.

The female has the black parts of the male replaced with dull brown. Under parts brown barred with grey. Young birds somewhat resemble the female.

317. White-eyed Duck. *Fuligula nyroca* (Guldenstädt).

Nyroca leucophthalma. Shelley, p. 288.

Very abundant during the winter in Lower Egypt, where it usually frequents reed-girt canals and ponds in preference to more open pieces of water.

Length about 16 inches. The adult male has the bill bluish ; iris *white* ; head, neck, and upper breast rich chestnut ; chin white ; back and wing coverts dull dark brown slightly glossed with green ; wing bar white bordered with black ; lower breast and belly white ; flanks brownish chestnut ; vent greyish.

The female is slightly smaller and the chestnut less intense in colour, and the eye is never so white as is that of the male ; the under parts, moreover, are seldom, if ever, of so pure a white.

318. Scaup. *Fuligula marila* (Linnæus).

Fuligula marila. Shelley, p. 290.

This duck has been included by Shelley on the authority of Von Heuglin, but if it occurs in the country it does so very rarely. No example has ever come under my notice, and I have never heard of a scaup having been shot here.

Length 19 inches. The adult male has the head, neck and upper breast black glossed with green ; under tail coverts black ; mantle vermiculated with black and white ; under parts and wing bar white.

The female has a white band at the base of the bill ; head and neck brownish black ; back and breast brown, the former vermiculated with white ; flanks mottled with brown ; belly dull white.

319. Stiff-tailed Duck. *Erismatura leucocephala* (Scopoli).

Erismatura leucocephala. Shelley, p. 291.

Shelley considered this duck to be tolerably plentiful in Lower Egypt, although he only met with it alive on one occasion. I consider that it is probably more abundant than it appears to be, and the fact that it is so seldom obtained or seen is due to its retiring and almost grebe-like habits.

Length about 18 inches. Bill lead colour and swollen at base ; tail feathers long, narrow, and very stiff ; top of head and lower neck black ; forehead and sides of head white ; upper breast and flanks chestnut with narrow black bars ; rump deep chestnut ; upper parts paler brown with black bars.

The female is much duller in coloration, and the young are duller and more brownish grey.

320. The Goosander. *Mergus merganser* Linnæus.

Not mentioned by Shelley.

On November 25, 1907, I saw a goosander on the flooded country near the Gîza Pyramids. This is the only time this duck has been seen in this country, so far as I know.

Length about 26 inches. The adult male has the head and upper neck glossy dark green ; lower neck and under parts pure white tinged with salmon pink ; upper back and scapulars black ; shoulders white ; lower back and tail ashy grey ; head crested ; bill red.

Female has a smaller crest, and the head and upper neck are reddish brown ; chin white ; upper parts ash grey ; wing bar white ; under parts buffish white. Young birds strongly resemble the female.

This and the following species have the bill long and narrow with tooth-like serrations.

321. Red-breasted Merganser. *Mergus serrator* Linnæus.

Not mentioned by Shelley.

Howard Saunders, "Manual of British Birds," 2nd edition, page 473, states that this duck occurs in Egypt.

Length about 24 inches. Adult male, bill and iris red. Head and upper neck dark glossy green, below which is a white incomplete collar ; back black. On each side of breast a tuft of white feathers edged with black. Wing bar white barred with black ; rump and flanks vermiculated with grey ; lower neck pale chestnut streaked with black ; under parts white.

The female is smaller and has a very distinct black bar on the wing patch, and the head and neck are reddish brown. Immatures are somewhat like those of the goosander, but are smaller and browner above.

322. Smew. *Mergus albellus* Linnæus.

Not mentioned by Shelley.

Apparently a rare visitor to Egypt, though I have examined at least three examples from the country.

Length about 17 inches. The adult male has the forehead, crown, and an elongated crest pure white, a black patch round the eye, and a black streak on the nape. Throat, neck, and under parts white; back black; shoulders white with a mottled crescentic band of black on the shoulders and another in front of each wing; flanks vermiculated with grey.

The female is smaller and browner, and the young bird is mottled with grey on the back.

COLUMBÆ.

323. Stock Dove. *Columba ænas* Linnæus.

Columba ænas. Shelley, p. 213.

A common visitor during the winter and frequently to be seen in large, sometimes vast, flocks.

Length about 14 inches. General colour slate grey, paler on the breast and belly; a metallic green patch on the sides of the neck; an imperfect black bar across the wing, and a broad black bar on the tail.

324. Rock Dove. *Columba livia* Gmelin.

Columba livia. Shelley, p. 211.

I consider it extremely doubtful whether the pure bred rock pigeon is to be found in Egypt at the present day. Interbreeding with domestic pigeons has been carried on for so long that, although it is possible to obtain *apparently* pure examples, they occur in flocks with birds of undoubtedly mixed ancestry. The same applies to the so-called *C. schimperi*, which has a grey band on the rump in place of a white one.

Length about 14 inches. Upper parts light grey, wings crossed with two black bands. The metallic neck patches are larger than in the stock dove, and the under parts are paler. A white band across the rump and the under side of the wing is white, not slaty as in the stock dove.

325. Turtle Dove. *Turtur turtur turtur* (Linnæus).

Turtur auritus. Shelley, p. 214.

Common during both migrations.

Length about 11 inches. Head, nape, flanks and outer wing coverts bluish grey, a patch of white-tipped black feathers on the sides of the neck. Feathers of the mantle pale reddish

brown with darker centres ; wing coverts brown with broad edges of paler brown ; lower back and rump dark blackish brown ; throat and fore neck and breast vinous pink ; the belly white ; tail feathers tipped with white and the outer pair with a white outer web.

Female similar but rather duller in coloration. The young in first plumage are dull brown above with buffish tips to some of the feathers ; there are no neck patches, and the under parts are a brownish grey.

326. Eastern Turtle Dove. *Turtur turtur arenicola* Hartert.

Common during the spring and autumn migrations and occurs together with the preceding.

Similar to the turtle dove, but the upper parts are paler, and this is especially noticeable on the wing coverts. The brown rump has some blue feathers intermingled.

327. Isabelline Turtle Dove. *Turtur turtur isabellina* Bonaparte.

Turtur sharpii. Shelley, p. 215.

This is the only form of *Turtur turtur* which to my certain knowledge breeds in Egypt. Shelley states that the turtle dove "frequently breeds in the country," but he gives no records or details. The Isabelline turtle dove nests in parts of the northern Delta, such as along the banks of the Bahr el Baaga and possibly on the Rosetta branch of the Nile, and probably also in the Faiyûm (Gurney, "Rambles of a Naturalist," p. 179).

In 1918 a wild pair nested in the Zoological Gardens in Giza.

Similar to the aforementioned, but has the head and neck brown and not bluish ; the chest is more vinaceous and the upper parts of a richer sandy brown ; the wing is also somewhat shorter.

328. Egyptian Palm Dove. *Turtur senegalensis ægyptiacus* (Latham).

Turtur senegalensis. Shelley, p. 217.

Abundant and resident in most parts of Egypt from the Mediterranean southward.

Length about 15 inches. Head, neck, and breast vinous, a blackish collar of bifurcated feathers on the sides of neck

and fore neck; belly whitish; back chestnut red mottled indistinctly with light brown; rump blackish brown; tail tipped with white, except on the central pair of feathers.

The female is similar, though paler in coloration, and the young resemble the female, but are paler and duller.

PTEROCLETES.

329. Senegal Sandgrouse. *Pterocles senegallus* (Linnæus).

Pterocles senegallus. Shelley, p. 220.

Not uncommon in suitable localities in Lower Egypt and also in Upper Egypt.

Length about 12 inches. The male has the chin, throat and sides of face pale orange yellow; lores and a band round the head grey; centre of chest and the belly brownish black; rest of under parts greyish sand colour; upper parts sandy brown with faint mottlings of darker brown; central tail feathers elongated. The female has the upper parts spotted with blackish brown.

330. Crowned Sandgrouse. *Pterocles coronatus* Lichtenstein.

Pterocles coronatus. Shelley, p. 221.

This sandgrouse appears to be fairly numerous in Lower Egypt, and I have handled examples from the Wadi Natrun on the west and near Marg on the eastern side of the Nile, while it has also been obtained in Upper Egypt (Shelley, *ibid.*).

Length about 12 inches. Somewhat similar to the Senegal sandgrouse, but has a black band encircling the face between the bill and eyes and has no black patch on the belly; and is also somewhat paler in coloration. The female has no black on the face; the general colour is paler, and the back is barred with brown.

331. Singed Sandgrouse. *Pterocles exustus* Temminck.

Pterocles exustus. Shelley, p. 218.

I have no positive records of this species from Lower Egypt, but it appears to be fairly numerous in Upper Egypt and the Faiyûm (Shelley and Gurney), and we have examples from the latter district.

Length about 12 inches. Head, throat, and back sandy coloured washed with yellow on face and neck and with brown on the back; quills black; wing coverts sandy shaded with

brown ; a distinct narrow black belt across the chest edged with sand colour and shading to chocolate on the abdomen, the centre of which is black. Female somewhat similar, but barred above with black ; two bands of black across the chest, and the black on the belly and thighs is barred with yellowish.

GALLINÆ.

332. Chukar Partridge. *Caccabis chukar* subsp.

I have never yet seen a specimen from Egypt, but large red-legged partridges have been reported to me as having been seen in the Moqattam Hills. As I do not know to which race Egyptian examples should be assigned, I give no description of the bird.

333. Hey's Partridge. *Ammoperdix heyi* (Temminck).

Ammoperdix heyi. Shelley, p. 222.

A resident in small numbers in the rocky deserts. The birds in the desert near Cairo are much paler in coloration than are typical examples from Sinai, and they also lack the white forehead.

Length about 10 inches. Upper parts pale sandy buff ; crown bluish grey ; ear coverts white ; throat rufous ; abdomen white ; the flanks streaked with black and rufous ; rump very finely vermiculated with grey ; bill and feet yellow. The female is whitish grey above vermiculated with dark brown ; under parts white.

334. Quail. *Coturnix coturnix* (Linnæus).

Coturnix communis. Shelley, p. 223.

The quail passes through the country in large numbers during the spring and autumn migrations. In the latter passage it is more abundant in the western part of the country. As a breeding bird it is not uncommon in Lower Egypt, and has been known to breed as far south as Isna.

Length 7 inches. Upper parts brown marked with rufous, grey and black ; a buff line through the centre of the crown of head. The feathers of the neck and scapulars and tail coverts are broadly marked with yellowish buff ; flanks striped with chestnut, buff and black ; under parts whitish buff (in the male more rufous) ; a buff stripe over each eye. The adult male has

a black anchor-shaped mark on the throat, though this varies in intensity of coloration. The female lacks this mark and has the chest spotted with black.

335. The African Quail. *Coturnix coturnix capensis* Lichtenstein.

A few of these quails may be met with during the spring passage.

Similar to the common quail, but the male has the entire throat brick red, and the sides of the neck are more rufous.

FULICARIÆ.

336. Water Rail. *Rallus aquaticus* Linnæus.

Rallus aquaticus. Shelley, p. 273.

A resident, and in some localities very abundant. In the Wadi Natrun large numbers breed in the bulrush-fringed swamp.

Length about 10 inches. Upper parts olive brown streaked with black; cheeks, neck and breast dark slate grey; flanks blackish barred with white; vent pale buff; bill red; legs dark brown. The female is similar, but duller in colour.

337. Spotted Crake. *Porzana maruetta* (Leach).

Porzana maruetta. Shelley, p. 274.

Common in suitable localities during spring, autumn, and winter.

Length about 8 inches. Adult male, upper parts olive brown minutely spotted with white; face and throat dull grey; crown dark brown; breast brown spotted with white; abdomen dull grey; flanks barred with brown and white; legs and feet greenish; bill green with a red base.

338. Little Crake. *Porzana parva* (Scopoli).

Not mentioned by Shelley.

Common in suitable reed beds in winter, and its numbers are increased during the spring migration. It is possible that a few remain to breed, but this is not yet proved.

Length about 7 inches. Upper parts olive brown; broad black streaks on the back and a few small white markings; forehead, sides of head, front of neck, breast, and belly slate grey; under tail coverts barred with white and thighs spotted with white.

The female has the upper parts paler; the neck and belly rufous white; flanks greyish with narrow white bars.

339. Baillons Crake. *Porzana bailloni* (Vieillot).

Porzana pygmæa. Shelley, p. 275.

Not uncommon during the spring and winter in parts of Lower Egypt. Either this or the former species breeds in the country.

Length about 7 inches. Upper parts brown spotted with black and white; chin, throat, and breast pale slate grey; flanks and under tail coverts barred with black and white. The outer web of the first primary is *white*, thereby distinguishing it from the little crake. The female is paler in coloration.

340. Landrail. *Crex crex* (Linnæus).

Ortygometra crex. Shelley, p. 274.

Common during the spring and autumn migrations.

Length about 10 inches. Upper parts brown with darker centres to the feathers; a grey patch above each eye and on sides of head; wing coverts and quills chestnut; throat and belly white; breast greyish buff; the flanks barred with reddish brown and buff; bill, legs, and feet pale brown. In winter the grey on the head is wanting. Female paler and lacking the grey on the head.

341. Green-backed Purple Coot. *Porphyrio madagascariensis* (Latham).

Porphyrio hyacinthinus. Shelley, p. 277.

This large coot is not uncommon in suitable localities in Lower Egypt, but is of such skulking habits that it is rarely seen. Shelley's statement that it is plentiful in the Faiyûm does not apparently hold at the present time. I have never met with it there, nor do I know of any one who has during the past twelve years.

Length about 18 inches. Crown, nape, wings, and upper breast purple blue; chin and throat turquoise blue; abdomen deep blackish blue; back metallic green; tail black washed with green; under tail coverts white; bill and legs red.

342. Allen's Gallinule. *Porphyrio alleni* Thompson.

Porphyrio alleni. Shelley, p. 276.

A single example of this rail was obtained near Alexandria by Mr. S. Stafford Allen prior to 1872. This bird, an immature, was in the collection of Messrs. Sharpe & Dresser.

Length about 8 inches. Back, wings, and tail green; under tail coverts white, remainder of plumage indigo blue, inclining

to black on the head ; neck, rump and abdomen, beak and frontal shield red tinged with orange (Shelley).

The young bird is brown with indigo blue on the flanks and thighs.

343. Moorhen. *Gallinula chloropus* (Linnæus).

Gallinula chloropus. Shelley, p. 275.

Resident in most parts of Lower Egypt, though its numbers are increased, presumably by migrants, during the winter.

Length about 13 inches. Upper parts deep olive brown, head, neck, and under parts dark grey streaked on the flanks with white ; abdomen greyish ; under tail coverts white, sometimes washed with rusty rufous ; bill yellow, with base and frontal shield red ; legs greenish yellow, with a red band below the feathered part.

Young birds are much paler and greyer.

344. Coot. *Fulica atra* Linnæus.

Fulica atra. Shelley, p. 278.

Abundant on the lakes, swamps, and open sheets of water during the winter months, and a few doubtless breed, though the great majority are visitors from the north.

Length about 14 inches. Upper parts dark slate grey, below black ; a white bar on the wing, which only shows during flight ; bill flesh coloured, the frontal shield ivory white ; legs dark olive green ; toes lobed.

345. Crested Coot. *Fulica cristata* Linnæus.

Fulica cristata. Shelley, p. 278.

I only include this species as Shelley considers it to be, or to have been, met with in Egypt. Personally I have never met with it, though I have had some hundreds of coots through my hands.

Similar to the common coot, but having two red knobs on the white frontal shield.

ALECTORIDES.

346. Grey Crane. *Grus grus* (Linnæus).

Grus communis. Shelley, p. 263.

Most abundant during the spring migration. Common during the autumn passage, and a few winter in the country.

Length about 45 inches. A red wart-like patch on the crown; the inner secondaries long and drooping and blackish in colour; cheeks and sides of neck white; rest of plumage slate grey; bill olive; legs black.

347. Demoiselle Crane. *Grus virgo* (Linnæus).

Grus virgo. Shelley, p. 264.

A few visit the country on migration, but this species is far less abundant than the grey crane.

Length about 40 inches. Pale slate grey, with the exception of the primaries, which are black; the long drooping secondaries are dark slate colour; a long tuft of pure white silky feathers behind the eye; side of head, the throat and fore neck black. Sexes similar.

348. Houbara Bustard. *Houbara undulata* (Jacq.).

Otis houbara. Shelley, p. 225.

This bustard ranges through the deserts on the west bank of the Nile from Cairo to the western borders of Egypt. It is a resident, and breeds in suitable localities.

Length about 30 inches. A crest of white feathers. On each side of the neck a large fan-like ruff of black and white plume-like feathers; upper parts sandy brown closely vermiculated with hair-like black markings; throat white, spotted with brown; rest of under parts white; tail reddish sandy, with four blue bars bordered with black. The female is slightly smaller, and the ruff is less developed.

349. Macqueen's Bustard. *Houbara macqueeni* J. E. Gray.

Not mentioned by Shelley, and hitherto unrecorded from Egypt.

The bustards from the deserts on the east side of the Nile belong to this species, which differs from the "Houbara" bustard in having the white crest tipped with black, the vermiculations on the upper parts wider apart, and the tail crossed by three blue bands only.

350. Arabian Bustard. *Eupodotis arabs* (Linnæus).

Eupodotis arabs. Shelley, p. 227.

I have not yet examined an Egyptian specimen of this bustard, but birds of this species have been seen in the eastern and western deserts and very accurately described to me, leaving no doubt in my mind as to their identity.

Length about 35 inches. Upper parts brown vermiculated with black; a white irregular bar across the wing; a broad white band on the tail; crown and neck whitish vermiculated with black; a black band from the eye to nape of neck, where it forms a slight crest; under parts white; under tail coverts brownish with central streaks of white.

LIMICOLÆ.

351. **Senegal Stone Curlew.** *Ædicnemus senegalensis* (Swainson). Plate 31, fig. 22.

Not mentioned by Shelley.

An abundant resident, especially in Lower Egypt, in the vicinity of towns. The eggs are usually laid on the tops of flat-roofed buildings, though sometimes in the desert.

Length about 15 inches. Upper parts dull brown with dark centres to the feathers and a small amount of black vermiculations; throat and upper breast dull buff striped with dark brown; under tail coverts buff; rest of under parts white; wing coverts greyish slate colour. *No visible white wing bar.*

352. **Saharan Stone Curlew.** *Ædicnemus ædicnemus saharæ* Reichenow. Plate 31, fig. 21.

Ædicnemus crepitans. Shelley, p. 230.

A resident in the *desert* on both banks of the Nile, though frequently straying into the cultivation. Somewhat similar to the Senegal stone curlew, but the upper parts are rufous sandy with no vermiculations. The wing coverts are less grey, and there is a distinct *white bar* across the closed wing.

I have not yet met with the typical stone curlew in Egypt, and believe that this form was confused with it by older writers.

353. **Pratincole.** *Glareola pratincola* (Linnæus). BLACK-WINGED *Pratincole.* *Glareola melanoptera* Nordmann.

Glareola pratincola. Shelley, pp. 227–228.

The pratincole passes through Egypt in large numbers during the spring and autumn migrations and a number remain to breed in Lower Egypt.

Length about 11 inches. Upper parts clove brown; throat buff encircled with a narrow black bridle; breast buffish brown; abdomen and tail coverts white. Most examples have the axilla-

ries and under wing coverts chestnut and the secondaries tipped with white, such examples being referable to the first-mentioned form. Others have the under wing coverts and axillaries black and no white on the secondaries; these belong to the second or "black-winged form." I find, however, that these characters are by no means constant, so prefer to unite the so-called forms under one heading.

354. Cream-coloured Courser. *Cursorius gallicus* (J. F. Gmelin).

Cursorius gallicus. Shelley, p. 229.

A common resident in suitable desert localities on both sides of the Nile. In spring its numbers are augmented by migrants.

Length about 10 inches. Entire plumage sandy with the following exceptions: nape slate blue margined with black; a white streak from eye to nape, below which is a narrow black streak; quills, under-wing coverts and axillaries black (very noticeable during flight); legs and feet enamel white. The young are paler and have dark crescent-shaped markings.

355. Dotterel. *Eudromias morinellus* (Linnæus).

Eudromias morinellus. Shelley, p. 236.

Sometimes fairly abundant in the poorer lands near the desert edge in Lower Egypt during the winter months.

Length about $8\frac{1}{2}$ inches. Upper parts brown with sandy edging to the feathers; a sandy collar round neck; throat spotted or streaked with brown; under parts buffish white, fading to white on abdomen.

In summer plumage the under parts are chestnut and black with a white band on the breast. I have never heard of a bird in this plumage being obtained in Egypt, though adults in winter plumage sometimes show one or two red or black feathers on the under parts.

356. Golden Plover. *Charadrius apricarius* Linnæus.

Charadrius pluvialis. Shelley, p. 235.

Not uncommon in suitable localities during some winters.

Length about 11 inches. Winter plumage, upper parts blackish brown spangled with golden dots; under parts whitish faintly marked with dusky; *axillaries white*. In summer the under parts are deep glossy black.

357. Grey Plover. *Squatarola helvetica* (Linnæus).

Not uncommon during the spring and autumn migrations on the coasts and on the shores of the lakes in Northern Egypt. A few remain throughout the winter.

Length about 12 inches. Winter plumage, upper parts ashy brown; lower parts white faintly marked with dusky; *axillaries* black. In the summer the upper parts are blackish spangled with yellowish white; a white line over the eye; under parts glossy black. In August and September adults are to be met with in Egypt which still retain most of their summer plumage. The grey plover may always be distinguished from the golden plover by its *black axillaries*, which are especially noticeable in flight. This species has a small hind toe, and that feature is lacking in the golden plover.

358. Geoffroy's Plover. *Ægialitis geoffroyi* (Wagler).

Ægialitis geoffroyi. Shelley, p. 238.

Abundant during the early autumn on the sea coasts, where it probably spends the winter. In December I have found it several times near the Gîza pyramids. Although I have no proof, I believe that a few pairs breed in the country.

Length about 8 inches. Winter plumage, upper parts, hair brown; forehead and under parts white; a pale brown collar across the fore neck. Summer plumage, a black band behind the white forehead; lores and ear coverts black; pectoral band pale orange. Young birds have the feathers of the upper parts edged with yellowish buff.

359. The Caspian Plover. *Ægialitis asiatica* (Pallas).

Eudromias asiaticus. Shelley, p. 237.

This species has been recorded from Egypt, but I have not met with it myself.

Length about $7\frac{1}{2}$ inches. Upper parts amber brown with a tinge of sandy buff on the forehead, cheek, and hind neck. Under parts white with a pale brown band on the fore neck. In summer plumage the cheeks and throat are white, and there is a broad band of bright chestnut across the breast with a narrow black band immediately below.

360. Kittlitz Sand Plover. *Ægialitis pecuaria* (Temminck).

Ægialitis pecuarius. Shelley, p. 239.

Resident and, in suitable localities, not uncommon. It breeds in March and the eggs are covered with sand by the sitting bird.

Length about 6 inches. Summer plumage, forehead, a line from eye to nape white ; nape, throat, under side of wing, and under tail coverts white ; rest of under parts rufous orange ; upper parts dusky chocolate brown ; a small broken collar of the same colour ; the brown feathers tipped with lighter brown ; a black band across back of head and down each side of neck.

In winter the black is replaced by brown and the under parts are paler. Young birds are more fulvous below than are adults in winter.

361. Kentish Plover. *Ægialitis alexandrina* (Linnæus).

Ægialitis cantianus. Shelley, p. 240.

Very abundant and resident. Usually met with on the sea shore or the edges of the lakes, but in winter frequently seen on village ponds in the Delta.

Length about $6\frac{1}{2}$ inches. Summer plumage, upper parts, light hair brown ; crown pale orange rufous ; forehead white bordered behind with a black band ; a broken narrow black collar on lower neck ; under parts white.

After the autumn moult the red crown becomes, in really adult males, rust colour. In younger birds the crown is only slightly more yellowish than the back, and the black collar is often replaced with one of brown, as is also the black stripe on the forehead. Females and young birds have the black replaced by brown.

362. Ringed Plover. *Ægialitis hiaticola* (Linnæus).

Ægialitis hiaticola. Shelley, p. 241.

Ægialitis intermedius. Shelley, p. 242.

The ringed plovers which visit Egypt from August to March are slightly smaller than British examples and browner in coloration. I have never met with this bird further south than the Faiyûm, where, however, I have found it abundant in November.

Length about $7\frac{1}{2}$ inches. Winter plumage, upper parts dark hair brown ; a brown collar completely encircles the fore neck ; tail darker brown with white tips and the outer feathers chiefly white ; a white bar in the wings. In summer plumage the collar and ear coverts to front of crown are black ; forehead white. Young in first plumage have the feathers of the upper parts narrowly edged with dirty white,

363. Little Ringed Plover. *Ægialitis dubia* (Scopoli).

Ægialitis minor. Shelley, p. 242.

Abundant during the winter. Some stay to breed.

Length about 6 inches. Summer plumage, upper parts pale hair brown; forehead white; fore part of top of head black, as are the lores, ear coverts, and a complete black collar round the neck; rest of under parts white; white on outer tail feathers; eyelids golden yellow; legs yellow.

Young and winter birds have the black replaced by brown, and the young have the upper parts more or less marked with sandy. This species may, when in the hand, be distinguished from the ringed plover by having the shaft of the *first flight feather only white*. In the ringed plover there are flecks of white on the shafts of the other flight feathers.

364. Mongolian Sand Plover. *Ægialitis mongolus* (Pallas).

Ægialitis mongolicus. Shelley, p. 239.

There is a specimen of this plover from Egypt in the British Museum (Shelley, p. 239). I know of no other record of it from this country.

Similar to *Ægialitis geoffroyi*, but considerably smaller.

365. North African Wattled Lapwing. *Sarcophorus tectus* (Boddaert).

Not mentioned by Shelley.

There is a specimen of this species in the British Museum marked "Egypt," but I have no further records of it from this country.

Length about 10 inches. Upper parts sandy brown; rump and tail white, the latter tipped with a black band; a broad white wing bar formed by the white tips to the sandy coloured greater wing coverts; wing quills black with white bases; crown black, extending in a narrow band down hind neck; a narrow frontal white band; lores black; fore part of cheeks and chin white; a broad band of white above ear coverts; throat black, narrowing to a point on upper breast; rest of under parts *white*; loral membrane crimson; bill rose scarlet with a black tip; legs and feet rose crimson; iris yellow.

366. Spurwinged Plover. *Hoplopterus spinosus* (Linnæus).

Plate, 30 fig. 24.

Hoplopterus spinosus. Shelley, p. 232.

Resident and numerous in suitable localities in most provinces of Egypt.

Length about 12 inches. Sexes alike. Crown, nape, and throat black, remainder of head and neck white; upper parts light brown; wings black with a white bar across the secondaries; upper and under tail coverts white; tail black with a white base; breast and sides of the abdomen black; rest of under parts white; a sharp black thorn-like spur on the carpal joint of the wing; bill and legs black; iris crimson.

367. Lapwing. *Vanellus vanellus* (Linnæus). Plate 30, fig. 23.

Vanellus cristatus. Shelley, pp. 231–232.

Numerous throughout Egypt in suitable localities during the winter months.

Length about $12\frac{1}{2}$ inches. Crown of head greenish black, as is also the long crest; upper parts metallic green with purple reflections and slightly marked with buff; tail white with a broad band of black; chin and upper throat white (black in summer); a broad black band across the breast; abdomen white; under tail coverts pale chestnut. The female and young birds have shorter crests, and the latter are more freely spangled with dull gold markings.

368. Sociable Plover. *Vanellus gregarius* (Pallas).

Chettusia gregaria. Shelley, p. 233.

A spring and autumn visitor, and though a few remain sometimes throughout the summer I have no records of its breeding in the country.

Length about 14 inches. Forehead, a broad streak above the eye, passing round the nape, chin, upper throat, lower flanks, under wing surface, rump and under tail coverts, thighs, secondaries, larger wing coverts, sides of rump and outer rectrices white; crown, lores, a narrow streak behind the eye, primaries, and outer primary coverts jet black; upper parts brownish ashy grey; tail white with a broad subterminal black band; neck and breast ashy grey; abdomen black, but posteriorly rich chestnut red (Dresser). Sexes similar. Young birds lack the black and chestnut, are mottled with black on the head and breast, and the rest of upper and under parts are brownish grey.

369. White-tailed Plover. *Chettusia leucura* (Lichtenstein).

Chætusia villotæi. Shelley, p. 233.

This plover is undoubtedly far less abundant at the present time than it was when Shelley was collecting in Egypt. During

the past twelve years it has occurred once at Gîza, and is sometimes numerous in the Faiyûm and has been reported from Luxor. I have no records of its having bred in Egypt.

Length about 12 inches. Upper parts, hair brown, suffused on the back with rose; tail and tail coverts pure white; primaries black; secondaries and basal half of primary coverts white; the folded wing shows a black and white bar; throat white; chest slaty grey; abdomen and under tail coverts buff. Sexes practically alike.

370. Egyptian Plover. *Pluvianus ægyptius* (Linnæus).

Pluvianus ægyptius. Shelley, p. 234.

This plover is certainly far less abundant than it was in Shelley's time; in fact, in the last twelve years I have only one reliable record of the bird having been seen in Egypt. On May 15, 1916, between El 'Aiyât and Badrshein a pair was seen and clearly identified by Lord W. Percy and Mr. G. E. Burnett Stuart.

Length about 9 inches. Top of head, the nape, back, and a band round the chest black; scapulars, wings (excepting the flight feathers), and tail pale clear grey, the last tipped with white; a stripe over each eye meeting on back of head white; flight feathers black with a wide white bar; throat white; rest of under parts buff.

371. Avocet. *Recurvirostra avocetta*. Linnæus.

Recurvirostra avocetta. Shelley, p. 260.

Abundant on the shallow shores of the lakes in Lower Egypt, where it probably breeds or used to breed. In some of the Wadi Natrun lakes it is abundant and resident, and has been reported as breeding. In the Faiyûm it seems less common, as it does also in Upper Egypt, but this is probably owing to lack of suitable feeding grounds.

Length about 17 inches. Top of head, nape, and back of neck, scapulars, primaries, and shoulders black; rest of plumage pure white; bill black, long, slender, and upturned and flexible; legs and toes pale blue, feet webbed. Young birds have the black portions of the plumage suffused with brown.

372. Stilt. *Himantopus candidus* Bonnaterre.

Himantopus candidus. Shelley, p. 260.

Common in suitable localities and resident. Its numbers are augmented during both migrations by immigrants.

Length about 12 inches; legs 10 inches. Male, head, neck, and under parts and rump pure white, with a slight pinkish tinge on the under parts; tail grey; rest of plumage greenish black; bill black; legs and feet pink. Birds which are not fully adult have the crown and nape brownish or grey, and the back and wings are browner, in which stage they resemble the adult female.

373. Oyster Catcher. *Hæmatopus ostralegus* Linnæus.

Hæmatopus ostralegus. Shelley, p. 243.

Not uncommon on the coasts of the Red Sea, on migration and has occurred on occasions in the Wadi Natrun, in Lower Egypt.

Length about 18 inches. Lower back, rump, base of tail and greater wing coverts and bases of flight feathers, lower breast, and abdomen white; rest of plumage black. In winter plumage the adults have a white collar on the fore neck, as do the young birds, but the latter have the feathers of the upper parts edged with buff; bill vermilion in adults, orange in the young; legs and toes flesh colour in adults, grey in young birds.

374. Woodcock. *Scolopax rusticola* Linnæus.

Scolopax rusticola. Shelley, p. 247.

A few visit Lower Egypt during the winter months.

Length about 14 inches. Upper parts reddish brown vermiculated with black; under parts pale brown barred with darker coloured bars. Sexes similar in coloration.

375. Full Snipe. *Gallinago gallinago* (Linnæus).

Gallinago media. Shelley, p. 249.

Very abundant in Lower Egypt from August, when it first arrives, until April. It is less abundant in Upper Egypt. I have heard of a nest and eggs of this snipe having been found in the Delta, and, as I have several times seen snipe "bleating" in April, it is possible that a few do nest in the country.

Length about 10 inches. Upper parts metallic black, the feathers bordered with buff; a buff stripe down the centre of the crown and one of the same colour over each eye; tail rufous, chestnut barred with black and mottled with white on outer tail feathers; under parts white washed with buff on throat and breast and spotted with dark brown; flanks barred with blackish brown; under wing coverts and axillaries white barred with blackish brown; the number of bars vary very considerably in individuals.

376. Jack Snipe. *Gallinago gallinula* Linnæus.

Gallinago gallinula. Shelley, p. 249.

Very abundant in Lower Egypt from October to April.

Length about 7 inches. Somewhat similar to the full snipe, but smaller and with shorter bill and legs. The upper parts are, moreover, more glossed with purple reflections.

377. Great Snipe. *Gallinago major* (J. F. Gmelin).

Gallinago major. Shelley, p. 248.

At the present time this snipe is uncommon in Egypt.

Length about 11 inches. Similar to the full snipe, but heavier. Shorter legs and bill and more heavily barred under parts, and a much greater amount of white in the tail. The great snipe usually has sixteen tail feathers, whereas the full snipe has fourteen. Sexes alike.

378. Painted Snipe. *Rhynchœa capensis* Linnæus.

Rhynchœa capensis. Shelley, p. 250.

Common and resident.

Length about 10 inches. Male, neck brownish grey mottled on throat with white; median and superciliary stripe and ring round eye buff; crown and nape olivaceous brown; hind neck and fore part of back ashy brown, narrowly barred with dark brown; rest of upper parts black, marked with rufous grey and yellowish; a wide buff stripe on each side of back; wing coverts and quills with oval yellowish and rufous spots; tail and upper tail coverts blue grey with yellowish spots and bars; sides of breast brown and black; rest of under parts white.

The female is far more brightly coloured; the ring round eye and superciliary stripe are white; sides of head, throat, and upper breast chestnut red; the upper parts are more deeply coloured; bill decurved at tip. Young birds resemble the male. At all ages there is a pointed long white feather under the scapulars.

379. Turnstone. *Streptilas interpres* (Linnæus).

Not mentioned by Shelley.

Not uncommon on the coasts in the autumn.

Length about 9 inches. Crown and nape white speckled with dusky; a patch behind the bill, lower breast, back, and upper tail coverts pure white; lores, a line through the eye,

front and sides of neck and pectoral band black; mantle, scapulars, and wing coverts black, streaked and mottled with chestnut; legs and feet orange red.

Young birds are duller in colour, and the upper parts are marked with dull yellowish edges to the feathers. The black is replaced by dull brownish black, and the white on the head by buffish white.

380. Broad-billed Sandpiper. *Limicola platyrhyncha* (Temminck).

Not mentioned by Shelley.

In October 1917 I found this species abundant near some small ponds at Bughaz, Rosetta, and obtained specimens of both adult and young. It is probably a regular visitor during the autumn migration and possibly in spring also.

Length about 6 inches. In winter plumage the sexes, which are similar, have the upper parts pale ash grey; a clearly defined white line over the eye; under parts white streaked with dusky brown on the throat; the bill is broad at the base and slightly decurved at the tip.

In summer plumage the upper parts are very dark blackish brown, variegated with white and rufous; throat and breast white tinged with rufous and spotted like the flanks with dark brown; rest of under parts white.

In its appearance this sandpiper, while in life, reminds one very strongly of a small jack snipe, but is much greyer in winter plumage.

381. Dunlin. *Tringa alpina* Linnæus.

Tringa cinclus. Shelley, p. 253.

Common on the coast and on the lakes in Northern Egypt, in the autumn; a fair number remain throughout the winter. Less abundant during the spring migration.

Length about 6 inches. In winter the upper parts are ash grey; rump blackish; under parts pure white speckled with ashy brown on throat and upper breast.

In summer plumage the upper parts are black variegated with red and white; a large black patch on lower breast. Young birds somewhat resemble adults in summer plumage, but the colours are never so pure and the lower breast is only mottled with brownish black; bill long—about $1\frac{1}{4}$ inches—and slightly decurved.

382. Little Stint. *Tringa minuta minuta* Leisler.

Tringa minuta. Shelley, pp. 251–252.

One of the most abundant of wading birds in autumn, winter and spring, a number remaining until April and May, when they are then assuming breeding plumage.

Length about $4\frac{1}{2}$ inches. Winter plumage, upper parts ashy grey, the feathers with darker centres; under parts pure white speckled on throat and upper breast with greyish brown. Summer plumage, upper parts blackish grey variegated with rich rufous, black and dull white; under parts white speckled on the throat and upper breast with brown, and these parts washed with pale chestnut; bill short and straight. Sexes similar. The young bird somewhat resembles the adult in summer, but the dark feathers of the upper parts are edged with rufous buff and lack the chestnut and white markings. In winter plumage young birds are of a darker, duller ash grey.

383. Temminck's Stint. *Tringa temminckii* Leisler.

Tringa temminckii. Shelley, p. 252.

Less common than the little stint and more addicted to quiet marshy localities, seldom if ever being met with on the seashore; arrives in autumn and leaves in early spring.

Length about $4\frac{1}{2}$ inches. Upper parts in winter dull slate grey with a slight iridescence greenish in colour. Under parts white; the throat and upper breast faintly streaked with brownish and somewhat intensely washed with ashy brown.

In breeding plumage the upper parts are mottled with dull chestnut and black.

At all stages the outer flight feather has a white or nearly white shaft, all the others being dusky. In the little stint most of the shafts have white on them, and in the latter the legs and feet are black, whereas in the former those parts are dull olive green.

384. Curlew Sandpiper. *Tringa ferrugina* (Brünnich).

Tringa subarquata. Shelley, p. 254.

Not uncommon on the shores and lakes of Northern Egypt in spring and autumn. A few pass through near Cairo during the autumn migration and also through the Wadi Natrun in spring and possibly in autumn.

Length about 7 inches. Winter plumage, upper parts ashy grey, *the rump white*; lower parts white; slightly marked

on the throat, neck and upper breast with greyish brown. Summer plumage, upper parts black mottled with rich chestnut and dull white ; lower parts vinous chestnut, with the exception of a slight barring of grey and brown on the abdomen and flanks. In summer the upper tail coverts are white with bars of black and tinged with buff ; bill, about $1\frac{1}{4}$ inches, noticeably decurved. Young birds resemble adults in winter, but have the feathers of the upper parts edged with yellowish white ; rump white.

385. Knot. *Tringa canutus* Linnæus.

Not mentioned by Shelley.

Of rare occurrence, but it has been met with near Suez, in the Faiyûm, near Bilbeis, and probably in the Wadi Natrun.

Length about 10 inches. In winter the upper parts are ashy grey ; lower parts white, finely spotted with black on the neck and upper breast. In summer the upper parts are black mottled with rich chestnut grey and whitish ; lower parts rich brick red. This bird is of heavier build and has a much shorter bill than the curlew sandpiper. The bill is, moreover, straight. Young birds of the year are grey brown above with buff edges to the feathers, and the white under parts are washed with yellowish buff, sometimes golden buff.

386. Sanderling. *Calidris arenaria* (Linnæus).

Tringa arenaria. Shelley, p. 253.

Not uncommon on the sea coast during the autumn migration, when the earliest arrivals have still most of their breeding plumage.

Length about 8 inches. Winter plumage, upper parts pale grey ; under parts pure white. Summer plumage, upper parts black variegated with chestnut, grey and white ; under parts white, the throat faintly streaked with black and washed with rufous. Sexes alike. Young birds have the upper parts black, the feathers edged with yellowish buff, the under parts white, slightly washed on the throat and breast with pale sulphur.

387. Terek Sandpiper. *Terekia cinerea* (Guldenstädt).

Not mentioned by Shelley.

On October 15, 1917, I saw a single example of this sandpiper at close quarters near Bughaz, Rosetta.

Length about 9 inches. Upper parts grey brown with blackish centres to the scapular feathers; throat and upper breast streaked with brown and washed with buffish brown; rest of under parts white; bill about 2 inches and *strongly upcurved*.

388. Ruff. *Machetes pugnax* (Linnæus).

Machetes pugnax. Shelley, pp. 246-247.

Extremely abundant in suitable localities during the spring migration. Less abundant in autumn, and a few remain throughout the winter.

Few males apparently remain late enough in spring to assume their ruffs, though I have seen full plumaged birds near the Suez Canal (1906) and at Bilbeis (1912).

Length, male, about 12 inches. In winter the upper parts are ashy brown, the lower parts white speckled on the throat and upper breast with brownish grey. In summer plumage two earlike tufts and a shield-like collar are assumed, in colour extremely variable, from pure white to orange or black, and often white barred with black. The upper parts are then mottled with reddish, brown, black or grey, or a mixture of all four. The bill is about $1\frac{1}{4}$ inches in length. The female is smaller, and in summer plumage lacks the ear tufts and "ruff."

389. Sandpiper. *Totanus hypoleucus* (Linnæus).

Actitis hypoleucos. Shelley, p. 259.

Fairly numerous on ponds and the shores of lakes throughout the country during both migrations, and a considerable number winter in the country.

Length about 7 inches. Upper parts olive brown with greenish reflections. In winter the upper parts are unspotted, but in summer plumage there are small black spots and bars on the feathers and the gloss is more purple; throat and upper breast streaked with brown; rest of under parts white; tail white, barred with black.

390. Green Sandpiper. *Totanus ochropus* (Linnæus).

Totanus ochropus. Shelley, p. 258.

Very abundant in suitable places throughout the country from autumn to spring.

Length about 9 inches. Upper parts blackish; in winter slightly and in summer more markedly spotted with dull whitish;

under parts white streaked with brown on throat and upper breast; tail white with broad bars of black; under wing coverts black with very narrow angular bars of white; upper tail coverts pure white. Sexes similar. Bill about $1\frac{1}{2}$ inches.

391. Wood Sandpiper. *Totanus glareola* (Linnæus).

Totanus glareola. Shelley, p. 259.

Very common in marshy places from autumn to spring, though less numerous in midwinter.

Length about 8 inches. Very similar to the green sandpiper, but the upper parts are more spangled with white and the under wing coverts and axillaries are white mottled with pale brown, and the tail is white at base, brownish towards the tip, and irregularly barred with blackish brown. Sexes alike. When on the wing the green sandpiper appears to be black and white, whereas the wood sandpiper seems much paler and more brown and white.

392. Marsh Sandpiper. *Totanus stagnatilis* Bechstein.

Totanus stagnatilis. Shelley, p. 257.

Numerous from October to April. In March and April great numbers pass through from the south.

Length about $9\frac{1}{2}$ inches. In winter plumage the upper parts are nearly uniform ashy grey. Lower back and rump white. Upper tail coverts white, barred and striped with black. Centre tail feathers ashy grey, rest white, freckled with black. Sides of face white, spotted with black. Entire underparts pure white, faintly spotted on the breast with dusky. Under wing coverts and axillaries pure white. Wings brownish grey. The bill is slightly recurved, and is black with an olive green base. Legs and feet greenish olive brown. In summer plumage the upper parts are strongly spotted and barred with black; the throat and breast spotted with black. Young birds resemble the adults in winter, but are less pure ashy grey above and are more brownish grey.

The marsh sandpiper superficially resembles a small green-shank, but is more slender and graceful in proportion.

393. Redshank. *Totanus totanus* (Linnæus).

Totanus calidris. Shelley, p. 255.

Common from September to April, and possibly some remain throughout the summer, though I have no reliable records of its having nested in Egypt.

Length about $9\frac{1}{2}$ inches. In winter plumage the upper parts are greyish ashy brown, except for a few white flecks and bars on the wing coverts. Lower back and rump white, slightly spotted with black on the latter. A white bar across the outspread wing, formed by the white secondaries and the white bases of the inner primaries. Tail whitish, barred with blackish brown. Underparts white, spotted on throat and breast with dark brown. Bill brown with a reddish orange base. Legs and feet orange.

In summer plumage the upper parts are strongly marked with black and the underparts spotted with black. Legs and feet bright orange red.

394. Spotted Redshank. *Totanus fuscus* (Linnæus).

Totanus fuscus. Shelley, p. 255.

Of somewhat uncommon occurrence in winter and spring.

Length about 12 inches. In winter plumage it much resembles the redshank, but may always be distinguished by its much longer and more slender bill and legs. The wing shows no white bar, the secondaries being regularly *barred* with black and white, none of them being entirely white.

In summer the entire plumage is sooty black (faintly marked with white spots on hind neck), with the exception of the lower back and rump, which are white, and the wing coverts, which are marked with white, as are also some of the tail feathers.

395 Greenshank. *Totanus nebularius* (Gunner).

Totanus canescens. Shelley, p. 256.

Not uncommon from October to March.

Length about 14 inches. In winter plumage upper parts ashy brown, mottled with whitish edges to the feathers, which are freckled with darker brown. Lower back, rump, and upper tail coverts white; wing coverts brownish freckled with white; quills blackish. Tail feathers white, the centre ones irregularly barred and the rest irregularly marked with dark brown; crown and hind neck greyish brown streaked with dull white. Underparts white, irregularly marked with brown on sides of the breast.

In summer plumage the upper parts are boldly marked with black, and on the under parts are spotted on the breast with black. Bill blackish brown, lighter at the base; legs and feet yellowish grey.

396. Black-tailed Godwit. *Limosa limosa* (Linnæus).

Limosa ægocephala. Shelley, p. 245.

Abundant on the shores of lakes and in flooded portions of the country from October to March.

Length about 17 inches. In winter plumage the upper parts are ashy brown, lower back and rump blackish brown. Wings dark brownish, the greater coverts broadly tipped with white, forming a wing bar; white on shafts and inner webs of primaries. Tail white at base, with a broad black terminal band. Under parts white; sides of face and neck and sides of throat and breast washed with brown. Bill about 5 inches. Tarsus about 4 inches.

In summer plumage the upper parts are mottled with black and rufous. Sides of face, entire neck, throat and breast rufous, barred with dusky black.

Females are similar to males in colouration, but the rufous is not so deep in colour in the summer plumage and they are larger in size.

397. Curlew. *Numenius arquata* (Linnæus).

Numenius arquata. Shelley, p. 243.

Not uncommon during the winter months in suitable localities.

Length about 21 inches. Upper parts pale brown with longitudinal black centres to the feathers; wing coverts brown, edged with paler brown; primaries blackish, notched with white on inner webs. Crown of head like the back, only more narrowly striped with black; under parts white streaked with dark brown on the chest. On the sides of the body are a number of blackish arrowhead shaped spots. Bill fleshy brown, blackish towards tip. Legs and feet dark brown.

In summer plumage the black markings are more distinct.

Bill long and strongly decurved. Sexes similar, but females are larger than are males.

398. Slender-billed Curlew. *Numenius tenuirostris* Vieillot.

Numenius tenuirostris. Shelley, p. 245.

Apparently uncommon from autumn to spring, though more information on the occurrence of this curlew in Egypt is needed.

Length about 15 inches. In coloration this species much resembles the curlew, but is more thickly spotted on the under parts. The bill is shorter and much more slender, and the bird is generally smaller and somewhat resembles the whimbrel in size, but may always be distinguished from the latter by having no plain buff stripe down the centre of the crown of the head.

399. Whimbrel. *Numenius phæopus* (Linnæus).

Numenius phæopus. Shelley, p. 244.

Not uncommon during the autumn migration on the coasts and on the lakes of Northern Egypt. Apparently rarer in spring and probably absent in winter.

Length about 15 inches. Upper parts dark brown with broad ashy brown markings on the feathers. Primaries blackish, notched with whitish on inner webs. Under parts white, washed with buffish brown on the breast and streaked with brown. Lower back and rump white, the latter usually showing a few dark brown markings on the centre of the feathers. Crown of head dark chocolate brown, with a well-marked band of buff down the centre. Bill long and decurved, brownish pale flesh colour at base. Legs and feet greyish blue.

400. Crab Plover. *Dromas ardeola* Paykull.

Not mentioned by Shelley.

Probably of rare occurrence. In August 1916 I saw two on Lake Borollos, and in August 1918 I saw a large flock flying near the shore at Rosetta lighthouse.

Length about 16 inches. Head, neck and under parts pure white, as are the wing coverts, scapulars and secondaries, lower back and rump. Rest of plumage black. Bill black. Legs and feet bluish grey. The legs are long and the toes partially webbed. Bill straight and thick. Sexes similar, but the female is rather smaller.

GAVIAE.

401. Black Tern. *Hydrochelidon nigra* (Linnæus).

Hydrochelidon fissipes. Shelley, p. 301.

Abundant during the autumn migration, but less so in spring. It frequents the sea coast as well as the lakes.

Length about $9\frac{1}{2}$ inches. Crown and nape black. Upper parts slate grey. Under parts leaden grey almost black. *Under wing coverts* and under tail coverts *white*. *Axillaries leaden grey*. Sexes similar, but the female is slightly paler. Adults in winter are pure white below, with a white forehead; hind crown and centre of nape black. Upper parts pearl grey. *Bill black; legs and feet reddish brown*.

402. White-winged Black Tern. *Hydrochelidon leucoptera* (Temminck).

Hydrochelidon nigra. Shelley, p. 301.

The most abundant of the marsh terns in spring and autumn. It is apparently absent from Egypt during winter, but it is probable that some breed in the country.

Length about $9\frac{1}{2}$ inches. Head, neck, throat and breast, and belly deep glossy black; mantle dark slate colour. Lower back, rump and tail white; edges of wing pure white, as are also under wing coverts and axillaries. Bill livid red; legs and feet orange red. The female is somewhat less pure in coloration.

Adults in winter are pale pearl grey above and white below; forepart of crown and the nape white mottled with black. In winter plumage the present species much resembles the black tern at the same season, but the narrow, slender bill of the latter serves to distinguish it.

403. Whiskered Tern. *Hydrochelidon leucopareia* (Temminck).

Hydrochelidon leucopareia. Shelley, p. 301.

Abundant on spring migration, and a few may possibly remain to breed. In autumn it is apparently far less numerous.

Length about $10\frac{1}{2}$ inches. Upper parts light slatey grey. Crown and nape black. Under parts dark smoky grey, darker on the abdomen. Bill blood red; legs and feet vermilion or orange red. In winter the adults are white below, the upper parts are paler, and the black on the head is restricted to spots on the hind crown and nape.

404. Lesser Sooty Tern. *Sterna anæsthesa* Scopoli.

Not mentioned by Shelley.

Apparently a straggler to the Red Sea coast and islands within the Egyptian boundaries.

Length about 15 inches. Upper parts sooty brown with an ashy grey wash. Upper tail coverts and tail brown. Outer tail feathers white. Crown of head and nape black; a white frontal band extending back over the eye; a black streak from the base of the bill to the eye. Under parts, cheeks and ear coverts white. Bill, legs and feet black. Sexes alike.

Young birds are browner, and are mottled above with dull rufous.

405. **Common Tern.** *Sterna hirundo* Linnæus.

Sterna fluviatilis. Shelley, p. 299.

Common during the autumn migration on the sea coasts and frequently ascending the Nile.

In spring it appears to be of much rarer occurrence.

Length about 15 inches. Crown and nape black. Mantle and wing coverts pale pearl grey. Rump, upper tail coverts and tail white, the last washed with grey. Primaries black, frosted with grey on outer web. Inner web whitish, with a greyish black streak next the shaft, this streak narrow at base of quill and gradually broadening until it covers the entire tips of the feathers. Under parts pale lavender grey, except the chin, throat and under tail coverts, and under wing coverts, which are pure white. *Bill and feet coral red, the former with a black tip.*

Young birds have dark brown bills and feet. The forehead is white and the upper parts are mottled with umber brown. Under parts pure white.

Tail always forked, the outer tail feathers elongated.

406. **Arctic Tern.** *Sterna paradisea* Brünnich.

Sterna hirundo. Shelley, p. 299.

The Arctic tern is, as far as is known at present, only a rare visitor to Egypt. Von Heuglin mentions having collected specimens on the north coast of Egypt.

In size and coloration very similar to the common tern. The *bill, however, is wholly red*, the tarsus is shorter than that of the common tern, the breast and belly are darker. At all ages this species may be distinguished from the common tern, when in the hand, by the dark stripe on the inner web of the first primary being paler and narrower than that of the common tern and extending practically *without broadening out to the tip of the feather.*

407. **Little Tern.** *Sterna minuta* Linnæus.

Sterna minuta. Shelley, p. 300.

Not uncommon on the sea coasts in autumn and spring, and has been seen apparently nesting on the Faiyûm lake in June.

Length about $9\frac{1}{2}$ inches. *Forehead white.* Crown and nape black. A black line through the lores and eye. Upper parts pearl grey; lower rump and upper tail coverts white. Entire underparts pure white. *Bill yellow with a black tip.* *Legs and feet orange yellow.* Sexes alike, but the outer tail feathers are less elongated in the female.

Young birds have less black on the head, and the upper parts are mottled with black and brown.

408. **Caspian Tern.** *Sterna caspia* Pallas.

Sterna caspia. Shelley, p. 296.

Not uncommon, during the autumn migration, on the sea coasts.

Length about 19 inches. Crown of head black, the black extending below the eyes. Upper parts pearly grey, including the rump and upper tail coverts. Tail pearl grey, with white shafts to the feathers. Underparts white. *Bill large, strong and bright red.* Legs and feet black. Females slightly smaller than the males. Adults in winter plumage have the crown white streaked with black.

Young birds are somewhat similar to the adults in winter, but are marked with black on the upper parts.

409. **Middle Tern.** *Sterna media* Horsfeldt.

Sterna media. Shelley, p. 298.

Although this tern occurs on the coasts of Egypt, I cannot believe that it was ever "plentiful in Lower Egypt" and resident, as stated by Shelley, though it is possible some may be found nesting on the Red Sea coast.

Length about 15 inches. Crown and nape black; back, wings and tail pearl grey; rest of plumage white. Legs and feet black; bill yellow.

410. **Sandwich Tern.** *Sterna sandvicensis* Latham.

Sterna cantiaca. Shelley, p. 297.

The Sandwich tern occurs along the coast in small numbers during passage. Up to the present time we have no positive records of its breeding in Egypt.

Length about $16\frac{1}{2}$ inches. Crown and nape black, the feathers of the crest pointed ; sides of face, sides and a collar round neck and underparts white, as are upper tail coverts and tail ; rest of plumage pearl grey. Bill long and moderately narrow ; *black with a yellow tip*. Legs and feet black.

Adults in winter lack the black crown and nape. Young birds are mottled with black.

411. Gull-billed Tern. *Sterna anglica* Montagu.

Sterna anglica. Shelley, p. 297.

Not uncommon in winter ; frequently ascending the Nile and frequenting flooded areas.

Length about 15 inches. Summer plumage, upper parts pearl grey, including the wings and tail. Head and nape glossy black and crested ; underparts white ; bill black, sometimes reddish at base of lower mandible ; legs and feet black with a reddish tinge. In winter the upper parts are paler, the crown of the head white and the hinder crown streaked with black ; in front of the eye a blackish spot. Sexes similar, but females have smaller bills. Young birds somewhat resemble the winter plumage of the adults, but the upper parts are brownish with dusky markings.

412. Swift Tern. *Sterna bergii* Lichtenstein.

Sterna bergii. Shelley, p. 298.

Although this tern probably occurs on the coast of the Red Sea, Shelley's statement that it is "not uncommon in Lower Egypt, where it is resident," cannot be said to hold good at the present time.

Length about 15 inches. A band of white at base of bill, rest of top of head black. Neck and under parts white. Rest of upper parts pearl grey, merging to dull white on the rump and tail. Primaries black and grey. Legs and feet black with a reddish tinge, the soles mottled with yellow. Bill yellow, greenish at base. Sexes similar, but the female has a slightly less strong bill.

413. Scissor Bill. *Rhynchops flavirostris* Vieillot.

Rhynchops flavirostris. Shelley, p. 302.

Although Shelley found this curious bird to be not uncommon in Upper Egypt, its status in the country must at present be considered obscure, and I should not be surprised if it is now

almost extinct in Egypt. I have never met with an example, although I have been within what Shelley considered its breeding place in the breeding season.

Length about 16 inches. Forehead, cheeks and underparts white, as is also most of the tail; rest of plumage sooty black. Legs, feet and webbed toes crimson; bill red with yellowish tips to both mandibles. The upper mandible is most considerably shorter than the lower, which is about 5 inches in total length.

414. Lesser Black-backed Gull. *Larus fuscus fuscus* Linnæus.

Larus fuscus. Shelley, p. 304.

Abundant on the coasts, lakes of Lower Egypt, and the Faiyûm lake from autumn to late spring, and records of its breeding on the coasts, although not yet forthcoming, would not be surprising.

Length about 22 inches. In summer the head, neck, tail, rump, underparts and mirrors on primaries are pure white; rest of plumage black. In winter the head and neck are streaked with brown. Bill yellow, with a patch of red at angle. Legs and feet yellow. The young bird closely resembles that of the herring gull, but may always be distinguished in having the larger wing coverts dull brown without any of the mottling which is always present on these feathers of the herring gulls.

415. Mediterranean Herring Gull. *Larus cachinnans* Pallas.

Larus leucophaeus. Shelley, p. 304.

Abundant on the coasts, mouths of the Nile, the lakes of Northern Egypt and the Faiyûm, and even ascending the Nile to Upper Egypt during the winter. It is possible that some breed in suitable localities on the coasts or islands near the coasts of Egypt.

Length about 22 inches. Similar to the herring gull, though sometimes slightly darker grey on the mantle. *The legs and feet of adults are, however, bright chrome yellow.*

Young mottled birds, during their first years, are not separable from young *L. argentatus* of the same age, but in the second year the legs of *L. cachinnans* show a yellow tinge.

416. Herring Gull. *Larus argentatus* Pontoppidan.

Larus argentatus. Shelley, p. 305.

Von Heuglin ("Syst. Ueb." p. 69), *vide* Shelley, pp. 304, 305, evidently confused this gull with the Mediterranean species,

and, although Shelley apparently did not meet with the typical herring gull himself, I have twice identified adults at close quarters, *i.e.* one adult near Giza, in November 1907, and one adult on Lake Manzala in January, 1908.

Length about 22 inches. In summer the head, neck, underparts and tail are white; quills black with white mirrors. Rest of upper parts French grey. Bill yellow, with a red patch near the angle; legs and feet *flesh coloured*. In winter the head and upper neck are streaked with brown.

417. **Great Black-backed Gull.** *Larus marinus* Linnæus.

Larus marinus. Shelley, p. 303.

Although recorded from the Mediterranean coast, this gull is of rare occurrence, and I have not met with it myself.

Length about 30 inches. Adult in summer, head, neck, tail, mirrors on primaries and under parts white. Mantle and wings black. In winter the head and upper neck are streaked with ashy brown. Young birds of this species are like nearly all the gulls, during their first year mottled with brown and white, and the full plumage is not assumed for two or three years. Bill of adult yellow, with a red patch at the angle. Legs and feet yellow. In young birds the bill is dark blackish brown and the legs and feet fleshy brown.

418. **"Common" Gull.** *Larus canus* Linnæus.

Larus canus. Shelley, p. 305.

Not uncommon on the shores and lakes of Northern Egypt during the winter months.

Length about 18 inches. In summer plumage the head, neck, tail, rump and underparts are white. Mantle and wings pale pearl grey, the primaries black, with white tips and mirrors. In winter the head and hind neck are streaked with mouse brown. Bill yellow; legs and feet greenish yellow. Young birds are mottled with brown and have dark brown bills.

419. **Mediterranean Black-headed Gull.** *Larus melanocephalus* Temminck.

Larus melanocephalus. Shelley, p. 308.

In calling this gull "moderately plentiful in Lower Egypt" Shelley was, I think, quoting Von Heuglin. I have never seen an Egyptian example, although it probably occurs on the

Mediterranean coast of Egypt, and Shelley, having included it is my only excuse at present for calling it an Egyptian bird.

Length about 15 inches. In summer plumage the entire head is deep black, with a small white patch above and below the eye. Tail and lower parts white with a rose pink wash. Mantle and wings pearl grey, with black on quills. Eyelid, bill and legs coral red.

In winter the head is white streaked with grey and dull black, and the bill and legs are less brightly coloured.

420. Little Gull. *Larus minutus* Pallas.

Larus minutus. Shelley, p. 310.

A winter visitor to the coasts and lakes of Northern Egypt. On one occasion Shelley saw great numbers on Lake Mareotis. At the present time I consider it to be a rare visitor, but, as in the case of other species of gulls, more information is required.

Length about 11 inches. In summer the head and upper neck are deep black; lower neck, tail and under surface pure white, with a pink tinge on the abdomen. Mantle pearl grey. Wing quills darker grey. In winter the black of the head is replaced with white faintly marked with pale grey. Bill deep red; legs and feet vermilion. Young birds are spangled with black on the upper parts.

421. Slender-billed Gull. *Larus gelastes* Thieneman.

Larus gelastes. Shelley, p. 306.

A somewhat uncommon winter visitor, it has been obtained as far south as near Qena in Upper Egypt.

Length about 16 inches. Head, neck, tail, rump and underparts white, in fresh plumage suffused with rosy pink; mantle pale French grey. In this gull the greater part of the first four primaries are white, giving the bird, especially when flying, a distinctly white-winged appearance. Bill, legs and feet liver red.

422. Brown-headed Gull. *Larus ridibundus* Linnæus.

Larus ridibundus. Shelley, p. 309.

Abundant on the coast, flooded areas, marshes, and up the Nile from autumn to spring.

Length about 15 inches. In summer plumage the head, nape and throat chocolate brown. A small white patch on the eyelid. Mantle pale grey; tail and rump white; breast and

rest of underparts white, often suffused with a rosy pink. In winter the head is white, marked with grey, especially behind the eye. Legs and feet red; bill liver red in summer, paler in winter. Sexes alike.

423. White-eyed Gull. *Larus leucophthalmus* Temminck.

Larus leucophthalmus. Shelley, p. 308.

Not uncommon at times in the neighbourhood of Suez.

Length about 17 inches. Somewhat similar to Hemprich's gull, but darker in colouration, with a white patch above and below the eye, and the bill is redder.

424. Hemprich's Gull. *Larus hemprichi* Bruch.

Not mentioned by Shelley.

A somewhat rare straggler to the Red Sea coast of Egypt.

Length about 17 inches. Head, throat and mantle dull dark brown; wings brown, the secondaries with pale tips. Primaries blackish, some with white tips. Eyelid, tail and underparts white, except the flanks and upper breast, which are greyish brown. Bill greenish yellow at the angle, zoned with black, reddish on the anterior portion. Legs and feet olive green. Sexes similar.

425. Great Black-headed Gull. *Larus ichthyaëtus* Pallas.

Larus ichthyaëtus. Shelley, p. 307.

Not uncommon in suitable localities, though apparently far less common than it was in Shelley's time. It is a visitor arriving in autumn and leaving in spring.

Length about 30 inches. Head all round black; a white patch on the eyelids; neck, tail and lower parts white. Mantle and wings pearl grey, with the exception of the primaries, which are white, marked at the ends and on the outer parts of the first quills with black. Legs and feet yellow. Bill yellow at base and tip, the remainder red, with a black mark at angle. In winter plumage the head is streaked with black and white.

426. Kittiwake Gull. *Rissa tridactyla* (Linnæus).

Not mentioned by Shelley.

In the "Ibis," October, 1917, Captain A. Boyd states that he saw a few at Port Said in March, 1916. This is the only record I know of from Egypt. I have never seen one myself.

Length about 16 inches. Head, neck, rump, tail and entire underparts white ; mantle pale slate grey. Wing coverts like the back, but the quills are marked with brown, black and white.

In winter the head is clouded with pale grey, and young birds are marked with black on the shoulders and neck.

427. Richardson's Skua. *Stercorarius parasiticus* (Linnæus).

Not mentioned by Shelley.

Sometimes visits the coasts during migration.

Length about 20 inches. Subject to considerable variation in colour ; some are entirely sooty brown, others have white underparts. Adults have the feathers of the neck tinged with yellow. Young birds, while being sooty above and having lighter edges to the feathers, are sometimes white below and often white barred with brown.

PYGOPODES.

428. Great Crested Grebe. *Podiceps cristatus* (Linnæus).

Podiceps cristatus. Shelley, p. 312.

Resident in small numbers.

Length about 21 inches. Entire upper parts dark brown ; lower parts white. A tuft on each side of the head, and a frill round neck brown and white in late winter ; chestnut and black in summer ; a white bar on the wings.

429. Red-necked Grebe. *Podiceps griseigena* Boddaert.

Podiceps griseigena. Shelley, p. 313.

Included by Shelley on Von Heuglin's authority.

Length about 17 inches. Top and tuft on head black, as is also the forehead and round eye ; chin, cheeks, throat and ear coverts chestnut, a grey and white line separating them from the black of the head. Rest of upper parts dark brown ; lower parts and wing bar white. In winter the throat is greyish white. Young birds resemble adults in winter, but are duller in colouration.

430. Black-necked Grebe. *Podiceps nigricollis* C. L. Brehm.

Podiceps nigricollis. Shelley, p. 313.

Numbers visit the lakes in Lower Egypt during winter, and those remaining until February are often in nearly full breeding plumage.

Length about 12 inches. In breeding plumage the neck is black ; a large triangular patch of golden feathers on each side of the head ; upper parts dark brown ; breast and belly white ; flanks reddish. A patch of white on the wings. Sexes similar, but the female is somewhat smaller.

In winter plumage the golden patches on the head and the black neck are lost. Young birds are duller in colour than adults in winter.

431. African Little Grebe. *Podiceps minor capensis* Salvadori.

Podiceps minor. Shelley, p. 314.

The little grebe inhabiting Egypt differs from the European form in having much more white on the wings. I have specimens from the Wadi Natrun, where it is resident and breeds, and I have seen a few individuals and examined eggs from Inshâs.

Length about $9\frac{1}{2}$ inches. In summer the crown, forehead, nape and upper parts are dark brown. Chin black ; cheeks, throat and neck chestnut. Sides of body umber brown ; belly white. In winter the red and black on the head and neck are absent. The secondaries are mostly pure white.

TUBINARES.

432. Mediterranean Great Shearwater. *Puffinus kuhli kuhli* (Boie).

Puffinus kuhli. Shelley, p. 311.

A straggler to the Mediterranean coasts of Egypt, and more often found as a washed-up derelict than in life, though I have sometimes seen living examples as near as the breakwater at Port Said.

Length about 20 inches. Upper parts greyish brown, the crown of head darker ; under surface white, washed with pale grey on sides of neck and face. Bill, legs and feet dull yellowish.

433. Manx Shearwater. *Puffinus puffinus puffinus* (Brünnich).

Puffinus anglorum (partim). Shelley, p. 312.

The typical form has only occurred once to my certain knowledge, Mr. J. L. Bonhote having picked up a dead example on the coast near Damietta on September 12, 1916.

Length about 14 inches. Upper parts black, lower parts white ; sides of neck mottled with greyish ; behind the thighs a sooty brown patch.

434. Levantine Shearwater. *Puffinus puffinus yelkonanus* (Acerbi).

Puffinus anglorum (partim). Shelley, p. 312.

Not uncommon on the coasts.

Similar to the afore-mentioned, but browner above and more mottled with grey on the neck, as are also the flanks and under tail coverts.

435. Little Auk. *Alle alle* (Linnæus).

Not mentioned by Shelley.

On September 7, 1907, a little auk flew through the verandah of the old Savoy Hotel at Port Said within a few feet of where I was sitting. It was so close that I could see its eye, and I have no hesitation in including it amongst the birds of Egypt.

Length about $8\frac{1}{2}$ inches. In summer the head, neck and upper parts are black; a small white spot over the eye; rest of plumage white. In winter the whole of the underparts are white.

STRUTHIONES.

436. Ostrich. *Struthio Camelus* Linnæus.

Struthio camelus. Shelley, p. 315.

The ostrich has been extinct in Egypt for at least seventy years. There is no doubt that it once occurred on the deserts on both sides of the Nile. The remains of egg-shells are to be found in the Western desert, and it was seen in the Eastern desert in 1816. An old Bedouin at Abu Rûweish told me about 10 years ago that about sixty-five years before, he saw his last ostrich "nest," in which the young had recently been hatched. While placing no reliance on this old man's statement as to the approximate date, I believe that, from his detailed description of the nest and egg-shells, the ostrich has nested during his lifetime in the Western desert.

APPENDIX I.

A number of species of birds included by Shelley in his "Birds of Egypt" have purposely been omitted in the present handlist, but only after a most careful sifting of the evidence produced. While keeping a very open mind on the subject of the extra-limital occurrences of many forms, there can be no doubt, in my opinion, that many species "creep" into local faunal lists on most unsatisfactory evidence, and these, I think, should always be eliminated, unless the author himself is perfectly satisfied that there is no reasonable doubt about the record. For the rest, "What's hit is history; what's missed is mystery."

APPENDIX II.

The following are the only species of birds which appear to have Arabic names known in this country :—

Wagtail	<i>Abu Fasada.</i>
Bulbul	<i>Bulbul.</i>
Shrike	<i>Dagnash.</i>
Swallow	<i>Asfûr Genneh.</i>
Sparrow	<i>Asfûr beladi.</i>
Lark	<i>Qunbara.</i>
Crested Lark	<i>Qunbara abu shûsha.</i>
Crow	<i>Ghorâb.</i>
Raven	<i>Ghorâb nûhi.</i>
Roller	<i>Ghorâb Zeitûni.</i>
Bee-eater	<i>Ouarouar.</i>
Hoopoe	<i>Hid-hid</i> (Lower Egypt), <i>Hud-hud</i> (Upper Egypt).
Lark-heeled Cuckoo	<i>Moch.</i>
Barn Owl	<i>Bûma.</i>
Little Owl	<i>Um quik.</i>
Eagle Owl	<i>Bûma bi qurun.</i>
Vulture	<i>Nisr.</i>
Egyptian Vulture	<i>Rakham.</i>
Buzzard	<i>Hawam.</i>
Eagle	<i>Oqhab.</i>
Kite	<i>Hiddâya.</i>
Falcon	<i>Sagr.</i>

APPENDIX II (*continued*).

Cormorant	<i>Ghorâb el Bahr.</i>
Pelican	<i>Ba'aga.</i>
Heron	<i>Balashûn.</i>
Buff-backed Heron	<i>Abu qerdân.</i>
Night Heron	<i>Wagr.</i>
Stork	<i>Anaz.</i>
Ibis	<i>Abu Mangal.</i>
Spoonbill	<i>Abu Malâëa.</i>
Flamingo	<i>Basharûs.</i>
Goose	<i>Wizz.</i>
Ruddy Shelduck	<i>Abu Jerona.</i>
Duck	<i>Batta.*</i>
Pigeon	<i>Hamâm.</i>
Dove	<i>Imri.</i>
Sandgrouse	<i>Gatta.</i>
Partridge	<i>Hagal.</i>
Quail	<i>Simmân.</i>
Water Rail	<i>Kelb el bahr.</i>
Purple Coot	<i>Dik sultâni.</i>
Moorhen	<i>Digâg el Moya.</i>
Crane	<i>Rahr.</i>
Bustard	<i>Houbara.</i>
Stone Curlew	<i>Karawan.</i>
Spur-winged Plover	<i>Zic-zac.</i>
Lapwing	<i>Zic-zac shâmi.</i>
Snipe	<i>Beccasine.†</i>
Gull	<i>Nurus.</i>
Ostrich	<i>Naama.</i>

* Several different species of ducks are recognized by name in parts of the country, but the native names are not always constant, so for the present are best omitted.

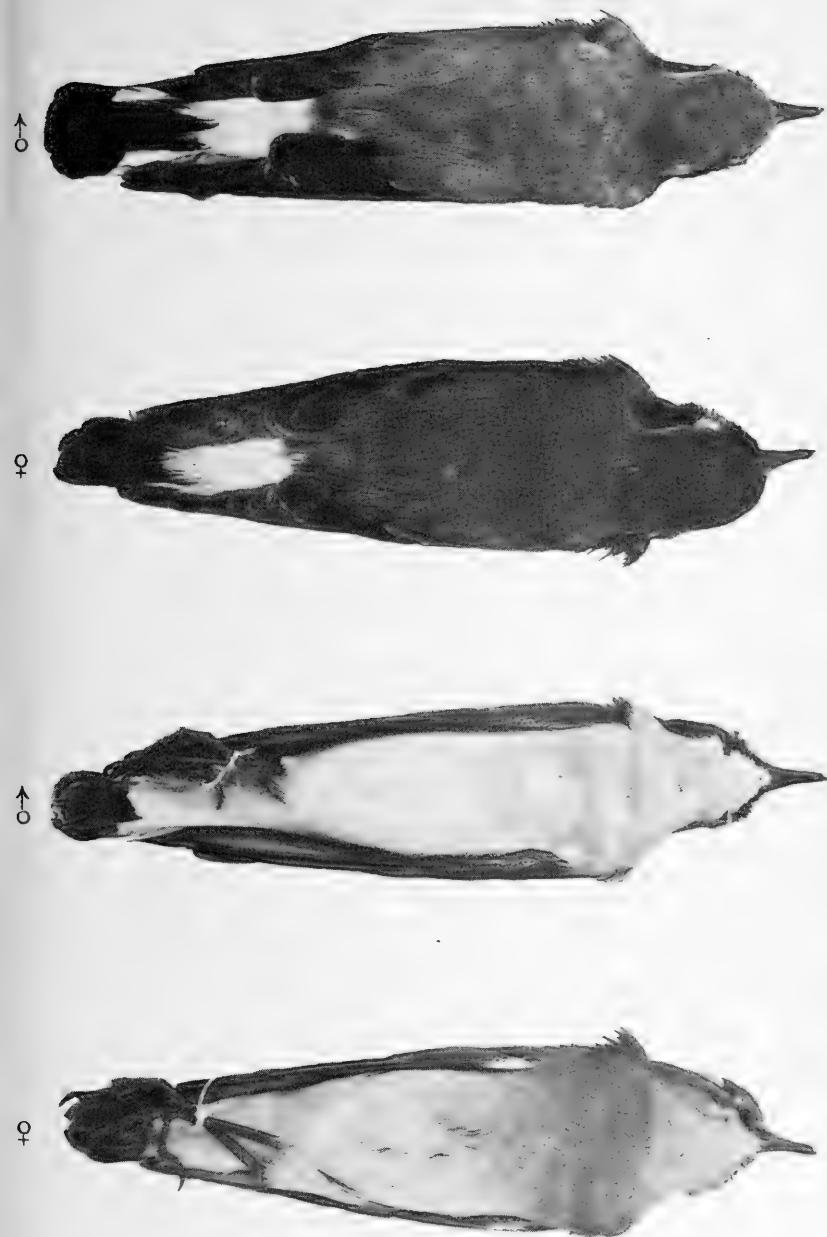
† From the French.

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					Sarcophorus	90
					Saxicola	2, 3, 4, 5, 6
					Scolopax	93
					Scotocerca	19
					Serinus	31

Govt. Press 4850-1918-1000 ex.

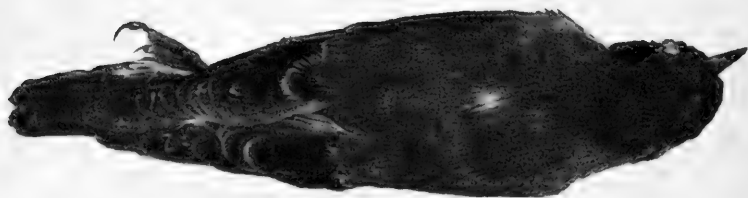


Wheatear. *Saxicola oenanthe oenanthe*.

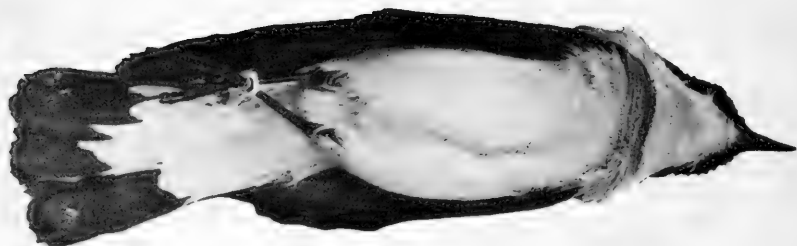
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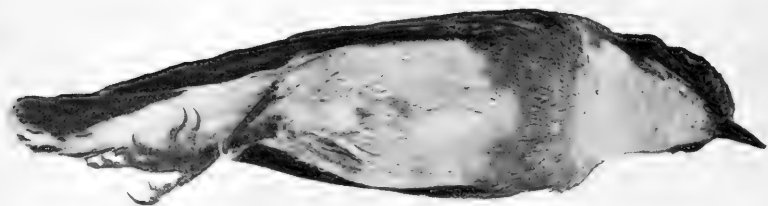
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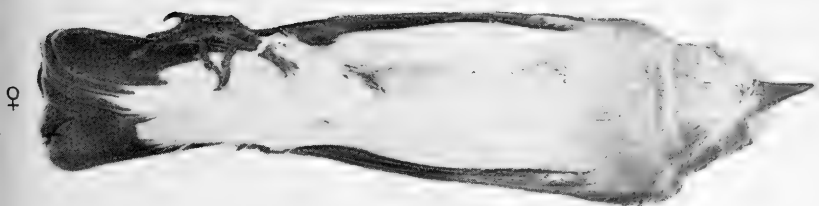
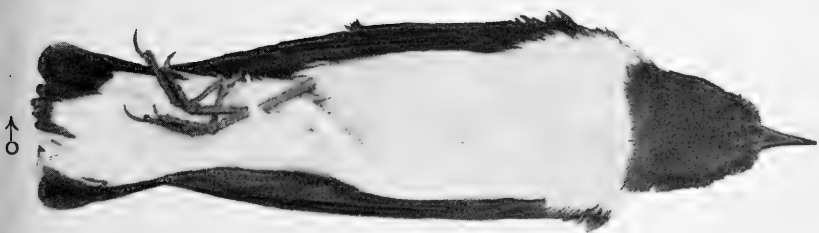
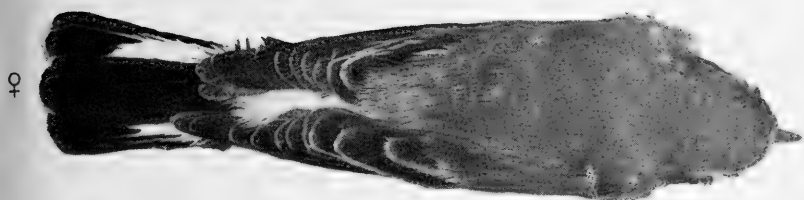
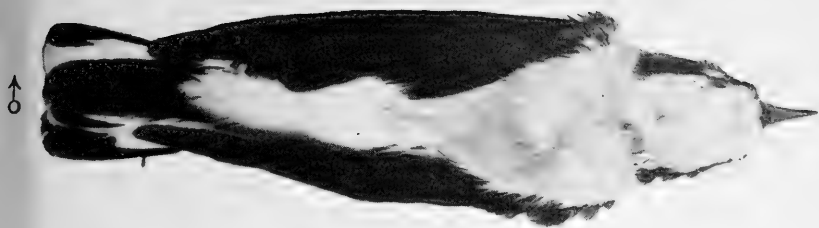
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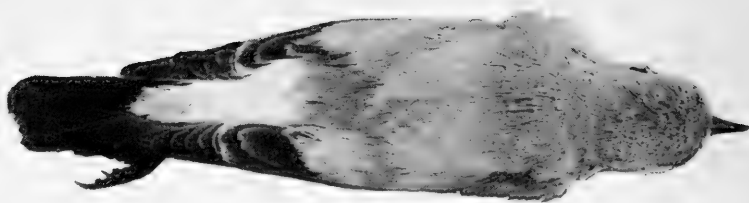


Eastern Russet Chat. *Saxicola hispanica xanthomelaena*.
(White - throated phase.)

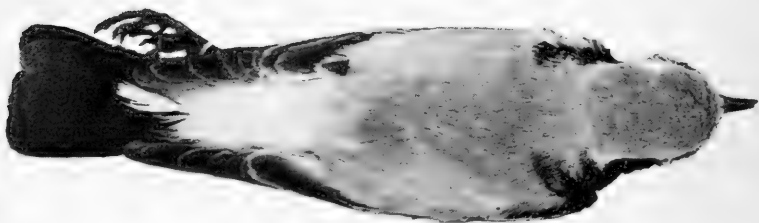


Eastern Russet Chat. *Saxicola hispanica xanthomelaena*.
(Black-throated phase.)

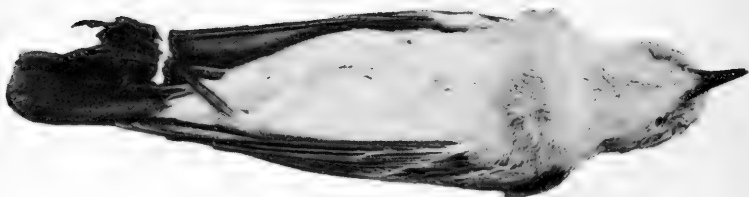
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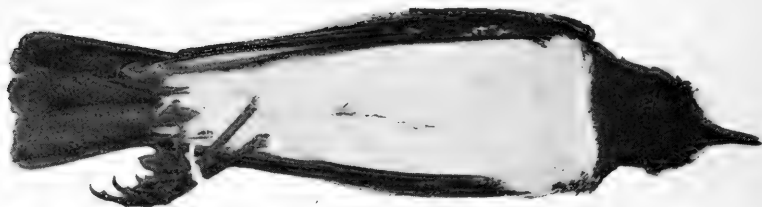
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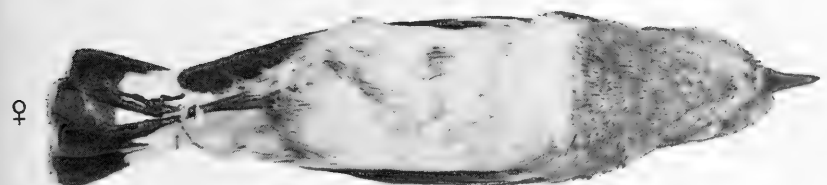
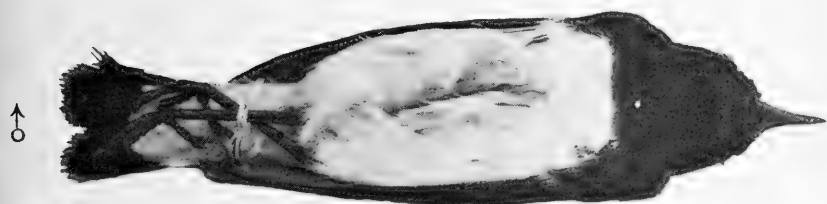
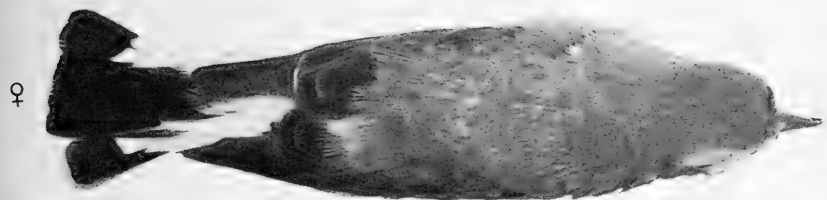
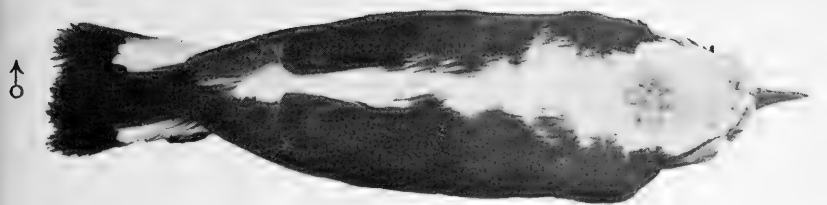
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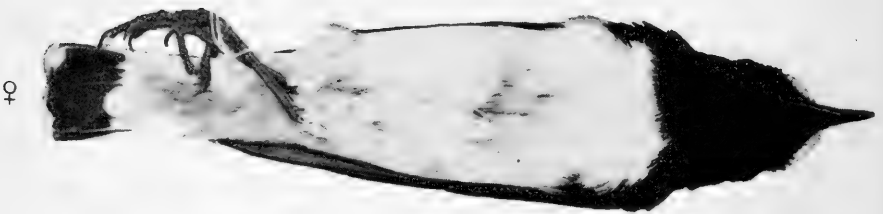
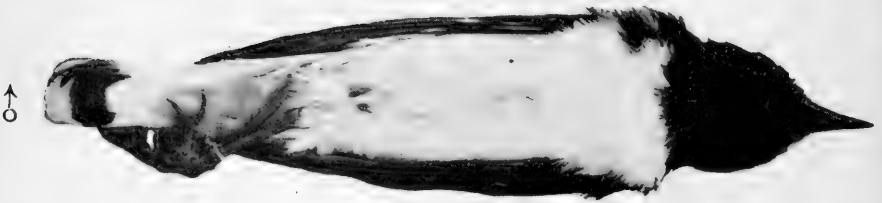
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Desert Chat. *Saxicola deserti deserti*.

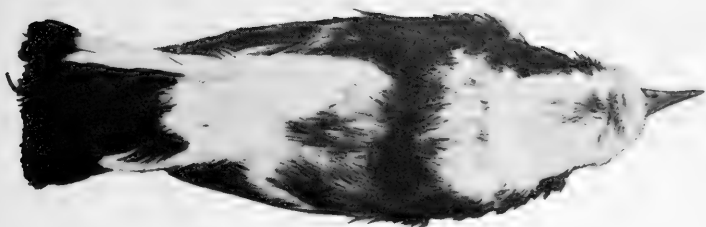


Arabian Chat. *Saxicola melanoleuca finschi*.

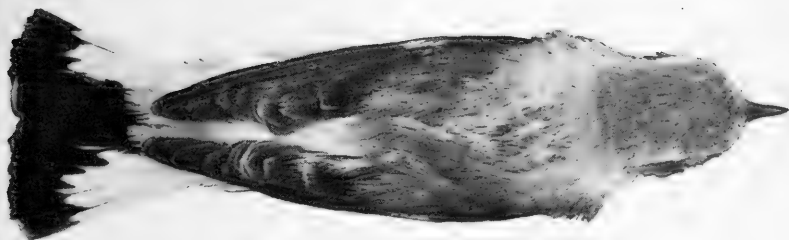


Eastern Mourning Chat. *Saxicola lugens lugens*.

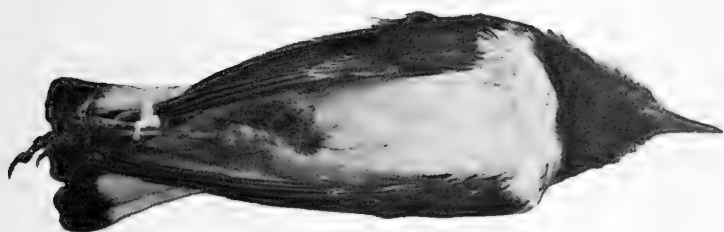
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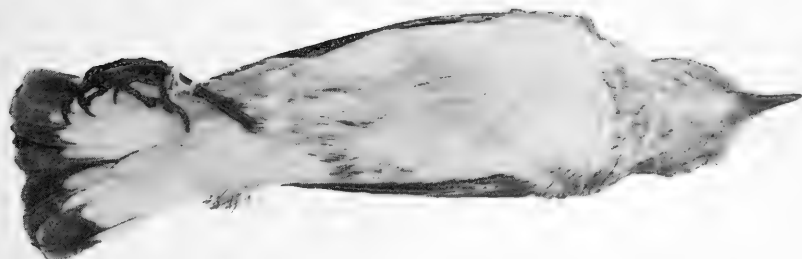
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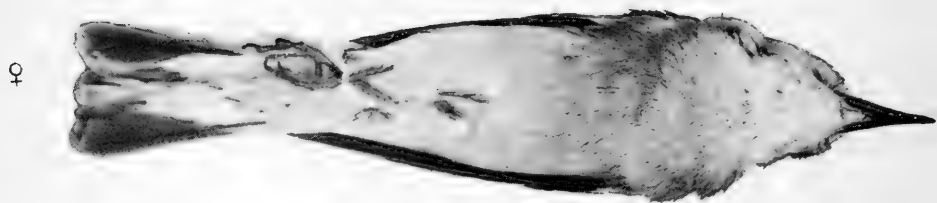
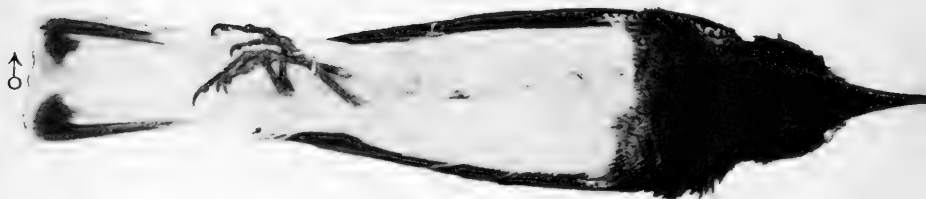
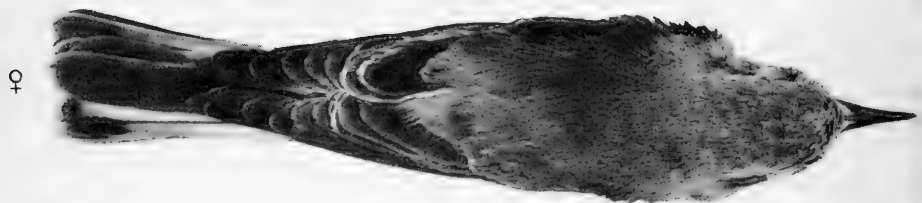
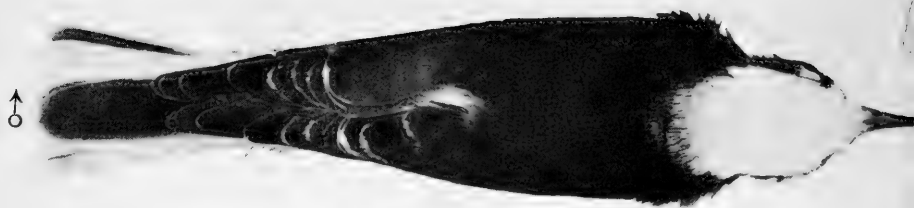
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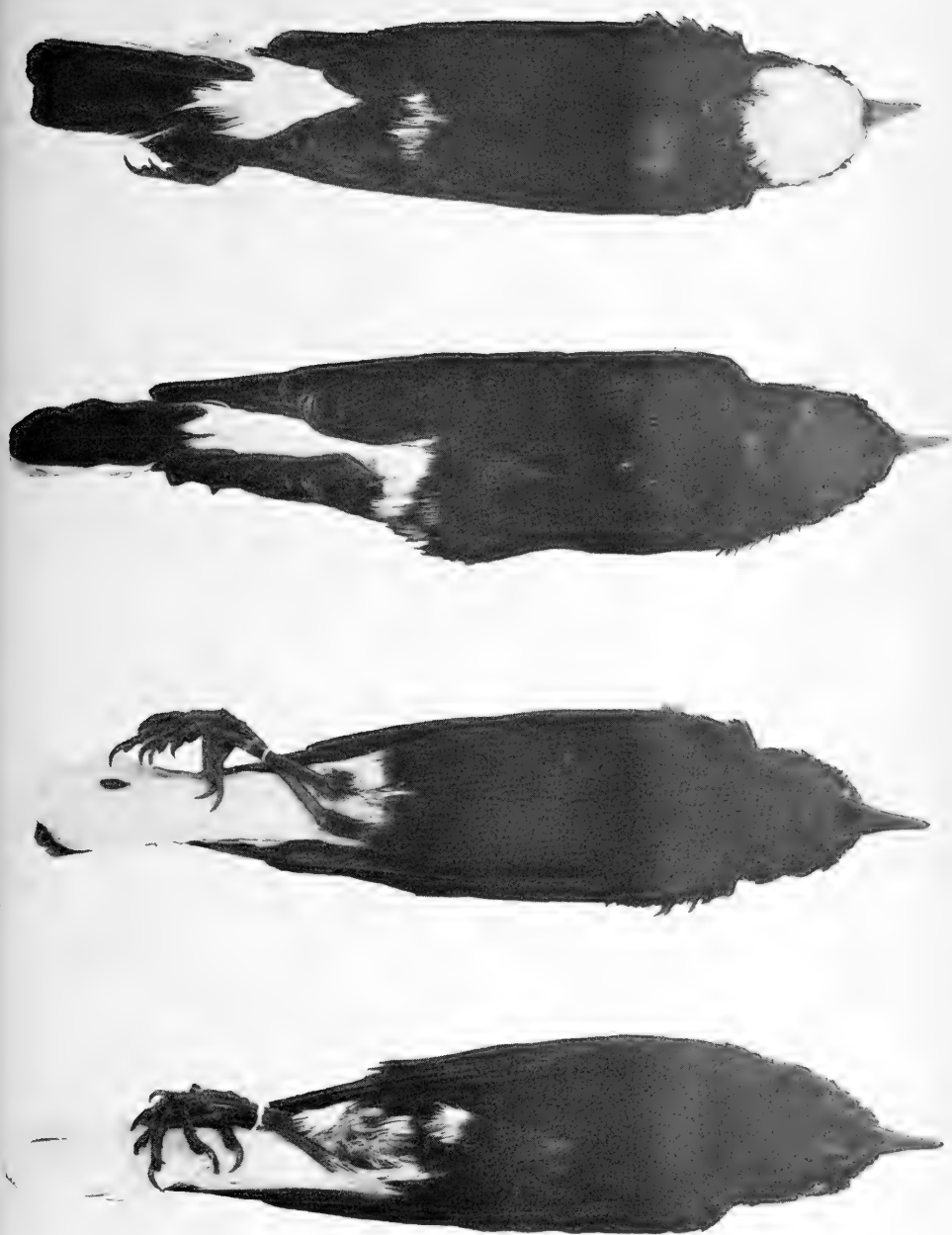
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Western Mourning Chat. *Saxicola lugens halophila*.

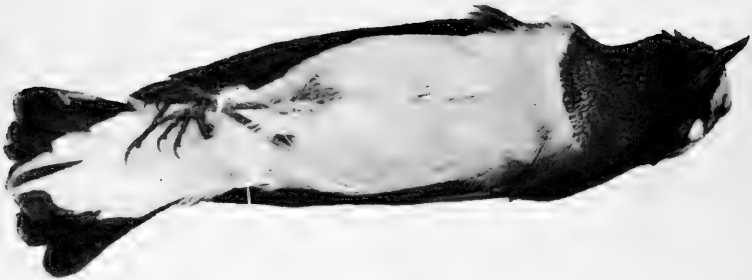


Hooded Chat. *Saxicola monacha*.

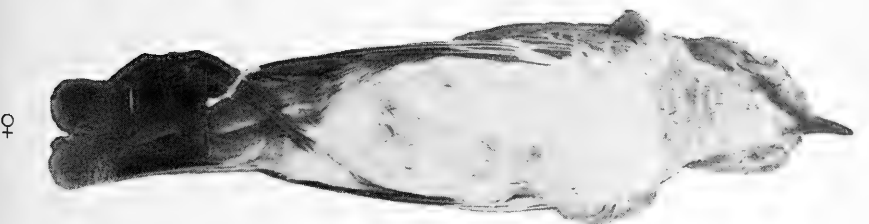
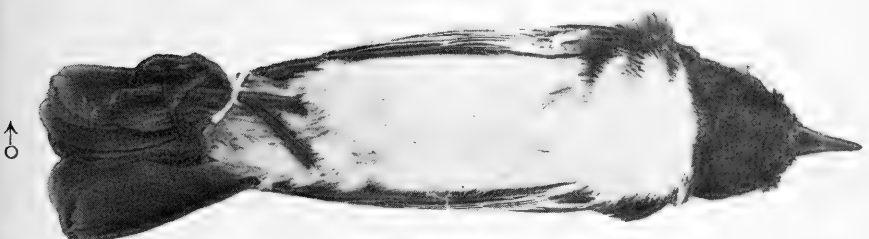
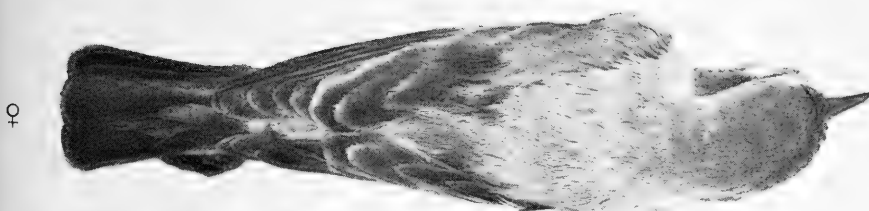
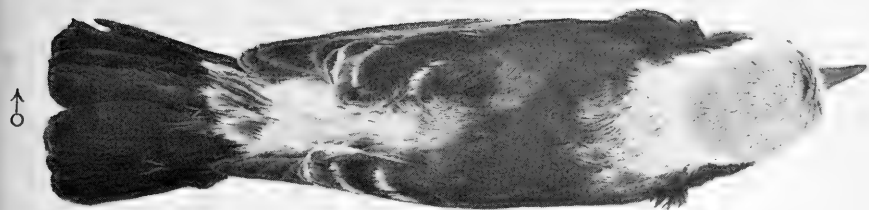


White-rumped Black Chat. *Saxicola leucopyga*.

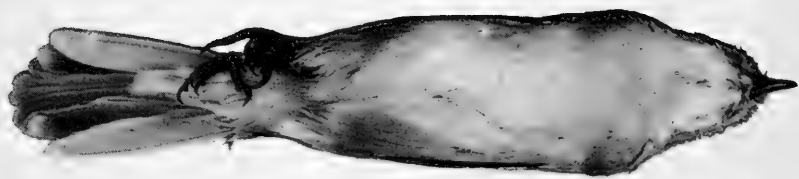
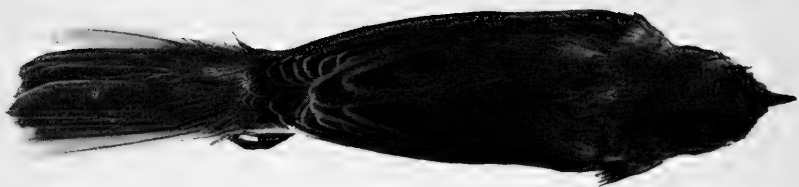
1. White-headed phase.
 2. Black-headed phase.
- (Sexes alike).



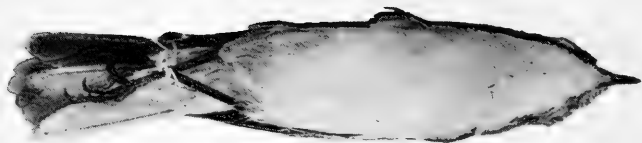
Eastern Pied Chat. *Saxicola morio*. ♂



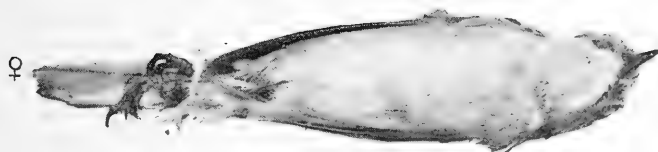
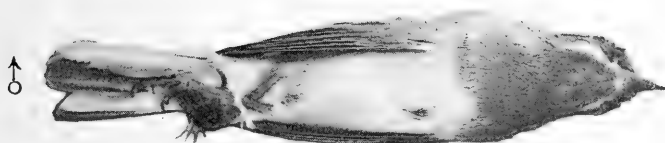
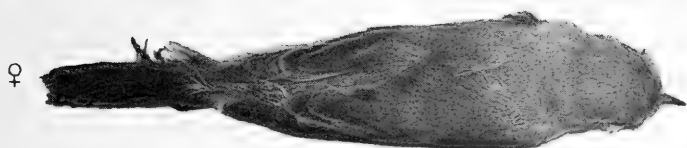
Black-tailed Chat. *Saxicola moesta*.



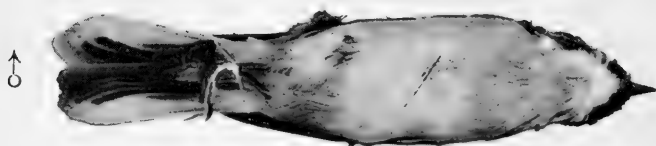
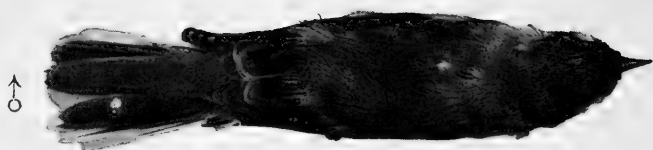
White-throat. *Sylvia communis communis*.



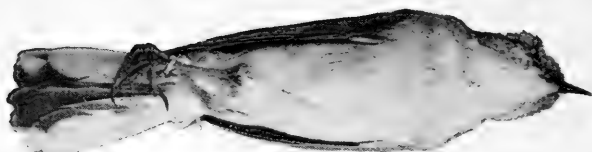
Lesser White-throat. *Sylvia curruca curruca*.



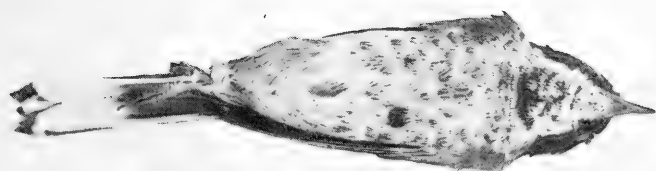
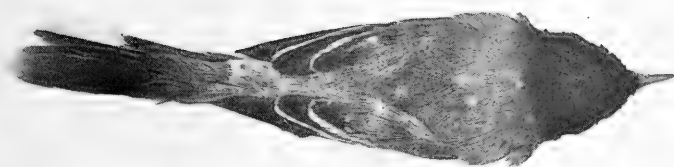
Eastern Subalpine Warbler. *Sylvia subalpina albistriata*.



Spectacled Warbler. *Sylvia conspicillata conspicillata*.

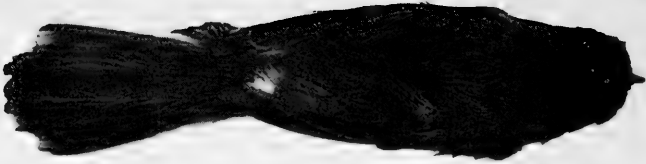


Desert Warbler. *Sylvia nana nana*. ♂

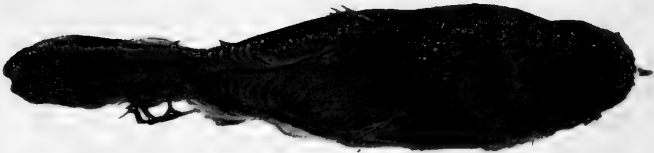


Palestine Warbler. *Sylvia melanothorax*. ♂

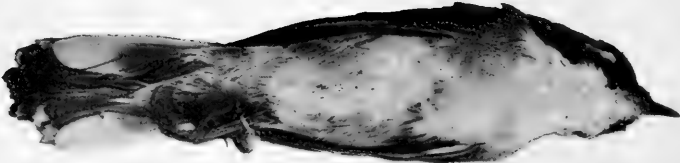
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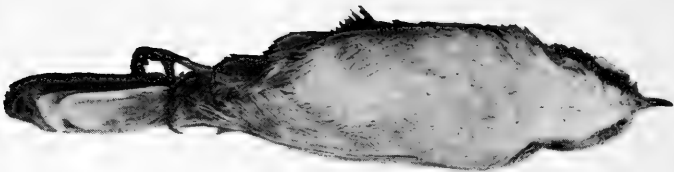
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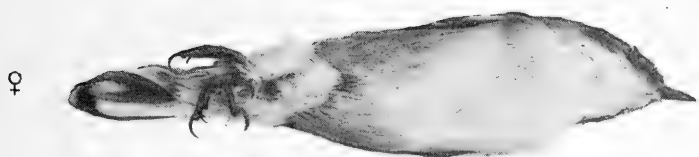
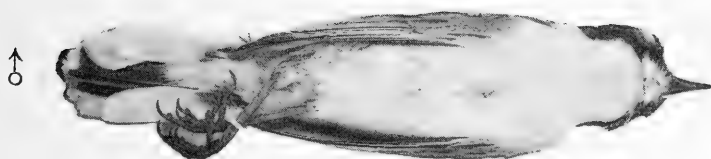
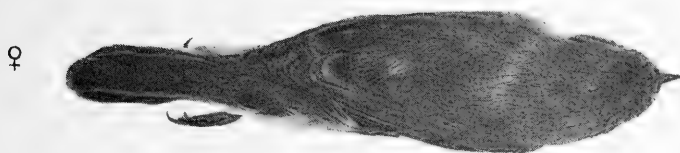
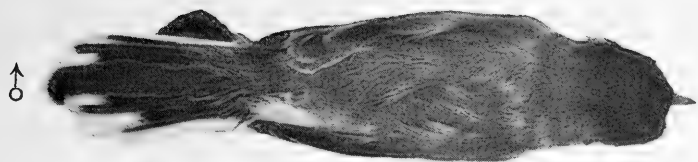
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Sardinian Warbler. *Sylvia melanocephala melanocephala*.



Bowman's Warbler. *Sylvia melanocephala momus*.

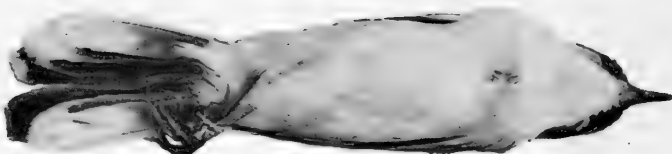
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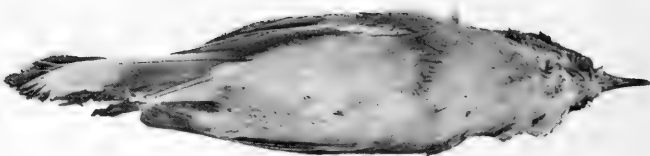
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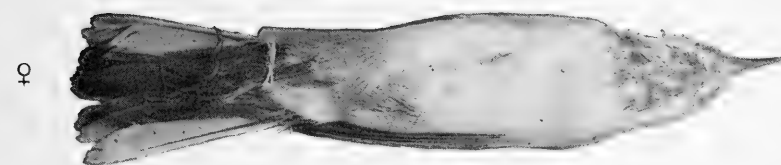
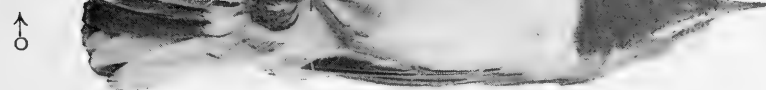
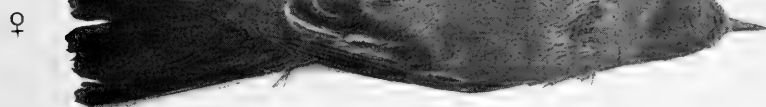
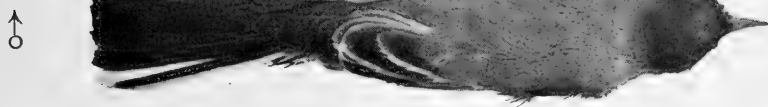
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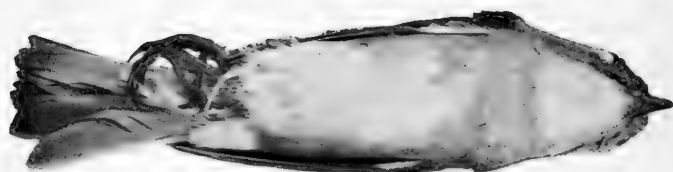
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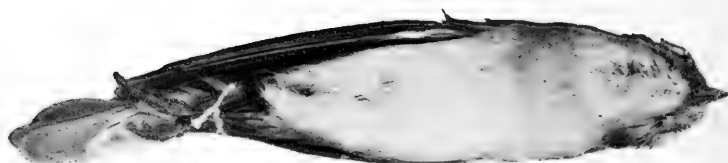
Mrs. Nicoll's Warbler. *Sylvia norrisae*.



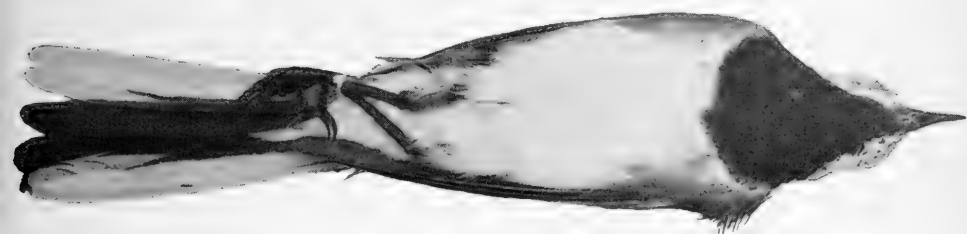
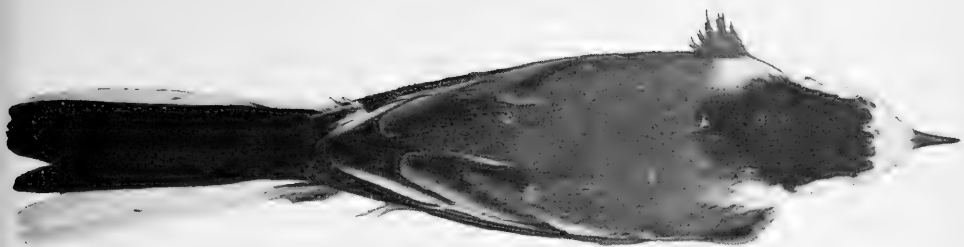
Ruppell's Warbler. *Sylvia ruppeli*.



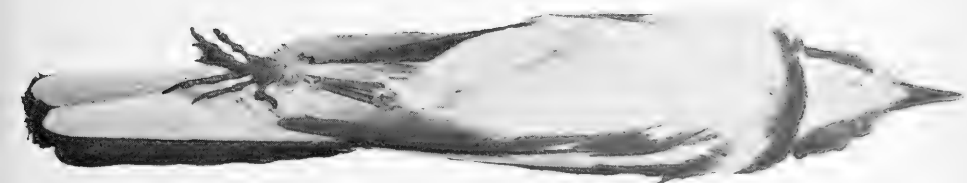
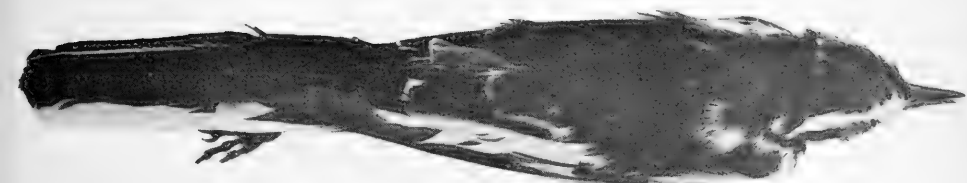
Black Cap Warbler *Sylvia atricapilla atricapilla*. ♂



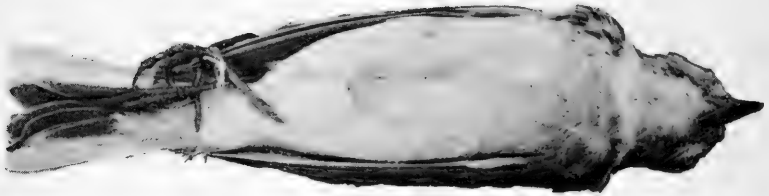
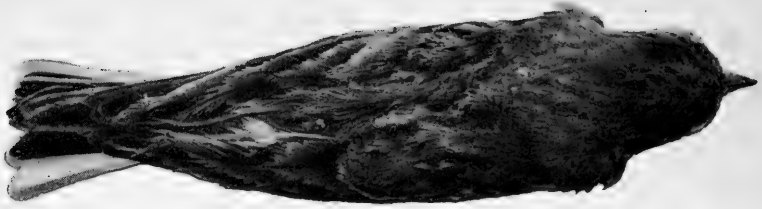
Garden Warbler. *Sylvia simplex*.
(Sexes alike)



White Wagtail. *Motacilla alba alba.* ♂

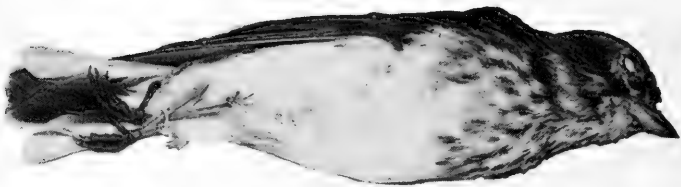


White-Winged Wagtail. *Motacilla vidua.* ♂

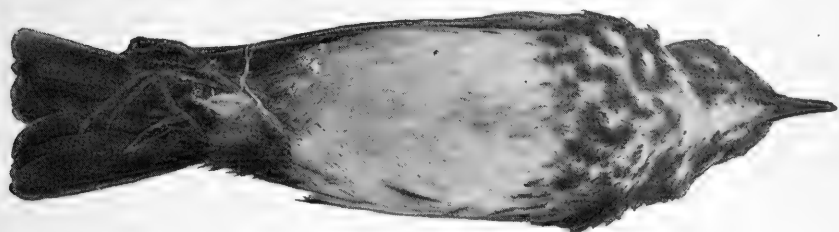
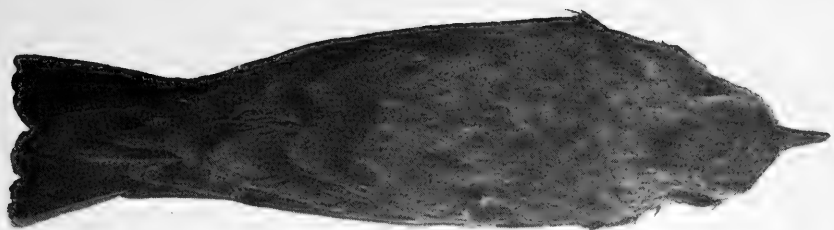


Long-winged Short-toed Lark.

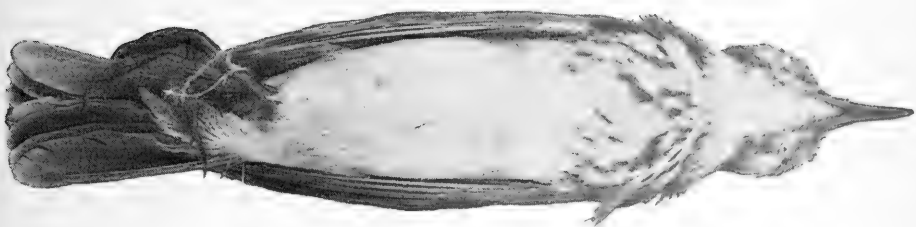
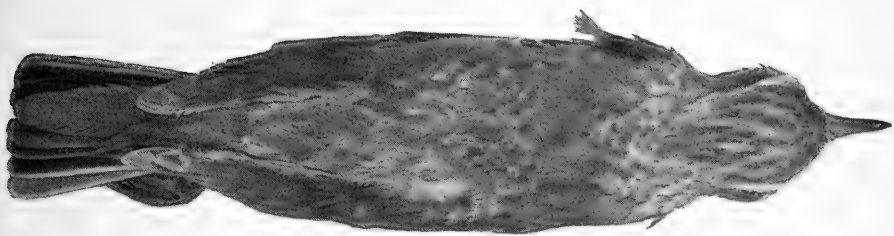
Calandrella brachydactyla longipennis.
(Sexes alike).



Nicoll's Lesser Short-toed Lark. *Calandrella minor nicolli.*
(Sexes alike).



Dark Crested Lark. *Galerida cristata nigriceps*.
(Sexes alike)



Pale Crested Lark. *Galerida cristata caroli*.
(Sexes alike)

1. Wheatear. *Saxicola oenanthe oenanthe*.
2. Isabelline Wheatear. *Saxicola isabellina*.
3. Chiffchaff. *Phylloscopus collybita collybita*.
4. Rufous Warbler. *Agrobates galactodes galactodes*.



1



2



3



4

$\frac{1}{2}$ SCALE

Plate 25

5. Graceful Wren Warbler. *Prinia gracilis deltae*.
6. White Wagtail. *Motacilla alba alba*.
7. Egyptian Blue-headed Wagtail. *Motacilla flava pygmaea*.
8. Red-throated Pipit. *Anthus cervinus*.



6



5



7

$\frac{1}{2}$ SCALE



8

Plate 26.

9. Tawny Pipit. *Anthus campestris*.
10. Egyptian Water Pipit. *Anthus spinoletta coutellii*.
11. Spotted Flycatcher. *Muscicapa grisola grisola*.
12. Collared Flycatcher. *Muscicapa collaris*.



9



10



11

$\frac{1}{2}$ SCALE



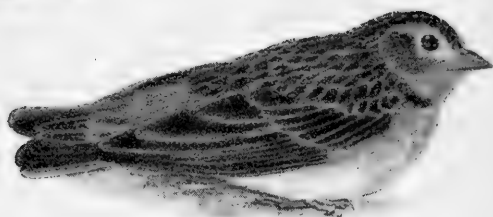
12

Plate 27.

13. Dark Crested Lark. *Galerida cristata nigricans*.
14. Short-toed Lark. *Calandrella brachydactyla brachydactyla*.
15. Grey Skylark. *Alauda arvensis cinerea*.
16. European Bee-eater. *Merops apiaster*.



13



14



16



15

$\frac{1}{2}$ SCALE

Plate 28.

17. Eastern Blue-cheeked Bee-eater. *Merops persicus persicus*.
18. Egyptian Little Green Bee-eater. *Merops orientalis cleopatra*.
19. Hoopoe. *Upupa epops epops*.



17



18



19

$\frac{1}{2}$ SCALE

Plate 29.

20. Brehm's Hoopoe. *Upupa epops major*.
21. Saharan Stone Curlew. *Oedienemus oedienemus saharae*.
22. Senegal Stone Curlew. *Oedienemus senegalensis*.



$\frac{1}{2}$ SCALE

20



21



22

$\frac{1}{4}$ SCALE

Plate 30.

23. Lapwing. *Vanellus vanellus*.

24. Spurwinged Plover. *Hoplopterus spinosus*.

Reproduced by the Survey of Egypt, 1919. (1088)

$\frac{1}{2}$ SCALE

23



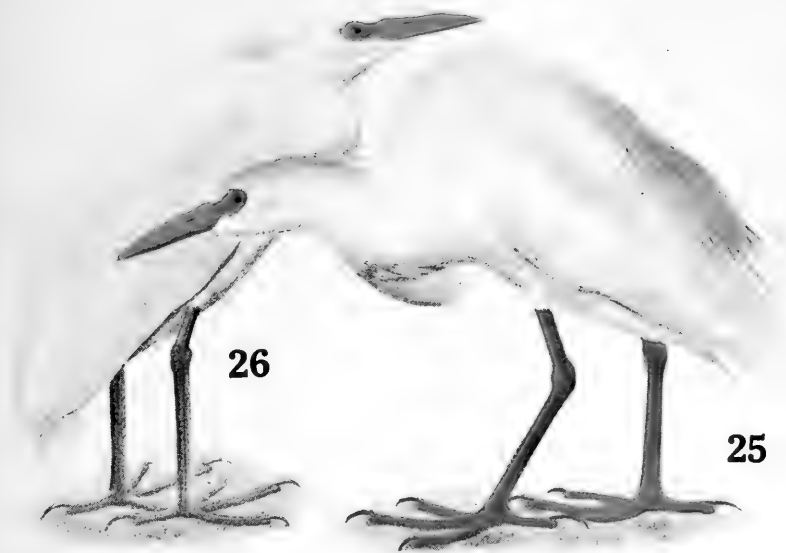
24



Plate 31.

25. Buff-Backed Egret. *Ardea ibis* (Summer).

26. Buff-Backed Egret. *Ardea ibis* (Winter).



$\frac{1}{4}$ SCALE





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